

SEQUENCE LISTING

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<120> Isolation and Uses of Ryanodine Receptors

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<212> DNA

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Ser Asp Lys His Val	Ile Pro Gln Phe Pro	Pro Arg Leu Lys Val	
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Leu Cys Tyr Gln Ser	Asn Tyr Arg Ala Ala	His Ala Leu Cys Ser	
1805	1810	1815	
cac gcg gac cag aag	cag ctg ctg tac gcg	atc cag tcg cag tac	5740
His Ala Asp Gln Lys	Gln Leu Leu Tyr Ala	Ile Gln Ser Gln Tyr	
1820	1825	1830	
atg tcg ggc ccg ctg	cgc cag ggc ttc tac	gat ctg ctc aca gca	5785
Met Ser Gly Pro Leu	Arg Gln Gly Phe Tyr	Asp Leu Leu Thr Ala	
1835	1840	1845	
ctg cat ctc gag tcg	cat gcc acc acc atg	gag gcg tgt aag aac	5830
Leu His Leu Glu Ser	His Ala Thr Thr Met	Glu Ala Cys Lys Asn	
1850	1855	1860	
gag ttc gtg atc ccg	ctg ggc ccg gag ctg	aag gcg ctg tac gag	5875
Glu Phe Val Ile Pro	Leu Gly Pro Glu Leu	Lys Ala Leu Tyr Glu	
1865	1870	1875	
gag ccc gac atg gga	cac tcg ctg cgc tcg	ctg cag acc gag agc	5920
Glu Pro Asp Met Gly	His Ser Leu Arg Ser	Leu Gln Thr Glu Ser	
1880	1885	1890	
gtg cgc ccg cag atg	aag atg acc gat atc	gct gaa agt ata acc	5965
Val Arg Pro Gln Met	Lys Met Thr Asp Ile	Ala Glu Ser Ile Thr	
1895	1900	1905	
gag ata agc aac cta	tac tcg ccg tac ttc	ccg ctg gag gtg gtg	6010
Glu Ile Ser Asn Leu	Tyr Ser Pro Tyr Phe	Pro Leu Glu Val Val	
1910	1915	1920	

cgc gag ttc gtg atg	cag gcg ctg gct	gaa gcc gtg gag acc aac	6055
Arg Glu Phe Val Met	Gln Ala Leu Ala	Glu Ala Val Glu Thr Asn	
1925		1930 1935	
cag gtg cac aac tgg	gat cct gtc ggg ggg	agc aat gag aac ctg	6100
Gln Val His Asn Trp	Asp Pro Val Gly	Ser Asn Glu Asn Leu	
1940		1945 1950	
ttc ctg cct cta ata	aag ttg gtg gac	cgt ctc ctg ctg gtc ggc	6145
Phe Leu Pro Leu Ile	Lys Leu Val Asp	Arg Leu Leu Leu Val Gly	
1955		1960 1965	
atg atg cgc gac gaa	gat gtg gag aag cta	ctc atc atg acc aac	6190
Met Met Arg Asp Glu	Asp Val Glu Lys	Leu Leu Ile Met Thr Asn	
1970		1975 1980	
cct gag aca tgg gac	ccc tcg ttt gac aaa	gag ggt aaa gac gag	6235
Pro Glu Thr Trp Asp	Pro Ser Phe Asp	Lys Glu Gly Lys Asp Glu	
1985		1990 1995	
cac cgc aaa ggt cta	ctc cac atg aaa atg	gcg gaa ggc gct aag	6280
His Arg Lys Gly Leu	Leu His Met Lys	Met Ala Glu Gly Ala Lys	
2000		2005 2010	
ctg cag atg tgt tac	tta ctg caa cat ctc	aac gac ata cag ctg	6325
Leu Gln Met Cys Tyr	Leu Leu Gln His	Leu Asn Asp Ile Gln Leu	
2015		2020 2025	
cgg cac agg gtc gaa	gct acc att gcg ttt	gcg cat gac ttc gtc	6370
Arg His Arg Val Glu	Ala Thr Ile Ala	Phe Ala His Asp Phe Val	
2030		2035 2040	
ggt gat cta cag act	gat cag ctc aga cgt	tac acg gaa atc aag	6415
Gly Asp Leu Gln Thr	Asp Gln Leu Arg	Arg Tyr Thr Glu Ile Lys	
2045		2050 2055	
cag tcg gac ttg ccg	agc gcg gtt gcc gct	aaa aag acg agg gag	6460
Gln Ser Asp Leu Pro	Ser Ala Val Ala	Ala Lys Lys Thr Arg Glu	
2060		2065 2070	
ttc cgt tgt ccg cct	aga gaa cag atg aac	gtt ata ctg agt ttc	6505
Phe Arg Cys Pro Pro	Arg Glu Gln Met	Asn Val Ile Leu Ser Phe	
2075		2080 2085	
aag cac cta gag gaa	gaa gac aag gag aac	tgt ccg tgc ggc gag	6550
Lys His Leu Glu Glu	Glu Asp Lys Glu	Asn Cys Pro Cys Gly Glu	
2090		2095 2100	
gag ctg atc gcg cgc	atg aac gag ttc cac	gac acc ctc atg gcg	6595
Glu Leu Ile Ala Arg	Met Asn Glu Phe	His Asp Thr Leu Met Ala	
2105		2110 2115	
cac gtg tcg ctg cac	gcg ctg cag gag cct	gat gct gcg gaa aat	6640
His Val Ser Leu His	Ala Leu Gln Glu	Pro Asp Ala Ala Glu Asn	
2120		2125 2130	
caa gaa cct gaa gca	aaa ccg ggg gca ttc	ggc aag cta tac aac	6685
Gln Glu Pro Glu Ala	Lys Pro Gly Ala	Phe Gly Lys Leu Tyr Asn	
2135		2140 2145	
att atc aat acg gtc	aag gaa tta gaa gag	gaa gct aag gca ata	6730
Ile Ile Asn Thr Val	Lys Glu Leu Glu	Glu Glu Ala Lys Ala Ile	
2150		2155 2160	
gaa gag cct ccg aag	aag acg cct gag gag	aag ttc cgt aag gtc	6775
Glu Glu Pro Pro Lys	Lys Thr Pro Glu	Glu Lys Phe Arg Lys Val	
2165		2170 2175	
ctc atc cag acc ata	gtg aac tgg gct gag	gag tcg cag ata gaa	6820
Leu Ile Gln Thr Ile	Val Asn Trp Ala	Glu Glu Ser Gln Ile Glu	
2180		2185 2190	
aca ccc aag ctt gtc	aga gaa atg ttc agt	ctt cta gtc cgc cag	6865
Thr Pro Lys Leu Val	Arg Glu Met Phe	Ser Leu Leu Val Arg Gln	
2195		2200 2205	
tac gac gca gta ggc	gaa cta atc cgc gct	cta gag aag aca tac	6910
Tyr Asp Ala Val Gly	Glu Leu Ile Arg	Ala Leu Glu Lys Thr Tyr	
2210		2215 2220	

gtc atc aac gcg aag acc aag tta gat gtc gcc gag atg tgg gtg	6955
Val Ile Asn Ala Lys Thr Lys Leu Asp Val Ala Glu Met Trp Val	
2225 2230 2235	
ggg ctc agc cag atc cga gcc ctg ctg cct gtg cag atg agc cag	7000
Gly Leu Ser Gln Ile Arg Ala Leu Leu Pro Val Gln Met Ser Gln	
2240 2245 2250	
gag gaa gag gaa ctc atg agg aag agg ctc tgg aaa ctt gtg aac	7045
Glu Glu Glu Glu Leu Met Arg Lys Arg Leu Trp Lys Leu Val Asn	
2255 2260 2265	
aac cac acg ttc ttc cag cat cca gat tta atc agg gtg ctc cgc	7090
Asn His Thr Phe Phe Gln His Pro Asp Leu Ile Arg Val Leu Arg	
2270 2275 2280	
gtg cac gag aac gtg atg gcg gtg atg atg aac acg ctc ggc cgc	7135
Val His Glu Asn Val Met Ala Val Met Met Asn Thr Leu Gly Arg	
2285 2290 2295	
cgc gcg cag gcg cag tcc gac gcg cag ccc tcc tca cag cct gtc	7180
Arg Ala Gln Ala Gln Ser Asp Ala Gln Pro Ser Ser Gln Pro Val	
2300 2305 2310	
gcg gag gat aac aag gag aag gac aca tca cac gaa atg gtg gta	7225
Ala Glu Asp Asn Lys Glu Lys Asp Thr Ser His Glu Met Val Val	
2315 2320 2325	
gct tgc tgc cgt ttc ctc tgc tac ttc tgc cgt acc ggg aga cag	7270
Ala Cys Cys Arg Phe Leu Cys Tyr Phe Cys Arg Thr Gly Arg Gln	
2330 2335 2340	
aac cag aag gcc atg ttc gac cac ttc gac ttc ctc ctg gag aac	7315
Asn Gln Lys Ala Met Phe Asp His Phe Asp Phe Leu Leu Glu Asn	
2345 2350 2355	
tcc aac atc ttg ctg tcc aga ccc tcg ctg aga gga tcc acc cct	7360
Ser Asn Ile Leu Leu Ser Arg Pro Ser Leu Arg Gly Ser Thr Pro	
2360 2365 2370	
ctg gac gtg gcc tac tcc agt ctt atg gag aac act gaa cta gcg	7405
Leu Asp Val Ala Tyr Ser Ser Leu Met Glu Asn Thr Glu Leu Ala	
2375 2380 2385	
ctg gct ttg aga gag cac tac ctg gag aag ata gca gtg tac ctg	7450
Leu Ala Leu Arg Glu His Tyr Leu Glu Lys Ile Ala Val Tyr Leu	
2390 2395 2400	
tcc cgc tgt ggt ctg cag agc aac tcg gag ctg gtg gag aag ggg	7495
Ser Arg Cys Gly Leu Gln Ser Asn Ser Glu Leu Val Glu Lys Gly	
2405 2410 2415	
tac cct gac ctc ggc tgg gat cca gtc gag ggg gag cgg tat ctt	7540
Tyr Pro Asp Leu Gly Trp Asp Pro Val Glu Gly Glu Arg Tyr Leu	
2420 2425 2430	
gac ttc ctg agg ttc tgc gtt tgg gta aat ggc gaa agc gta gaa	7585
Asp Phe Leu Arg Phe Cys Val Trp Val Asn Gly Glu Ser Val Glu	
2435 2440 2445	
gaa aac gcg aac cta gtg atc cgt ctg ctg atc cgt cgt cca gag	7630
Glu Asn Ala Asn Leu Val Ile Arg Leu Leu Ile Arg Arg Pro Glu	
2450 2455 2460	
tgc ctc ggg ccg gcg ctg cgc ggc gag ggc gaa ggc ctg ctg aag	7675
Cys Leu Gly Pro Ala Leu Arg Gly Glu Gly Glu Gly Leu Leu Lys	
2465 2470 2475	
gcc atc gtc gac gcc aac aag atg agc gag agg atc gcc gac agg	7720
Ala Ile Val Asp Ala Asn Lys Met Ser Glu Arg Ile Ala Asp Arg	
2480 2485 2490	
agg aag ctc agg gaa atg gag cag gag gga gat gtt aac ttc agc	7765
Arg Lys Leu Arg Glu Met Glu Gln Glu Gly Asp Val Asn Phe Ser	
2495 2500 2505	
cac ccc ctc ccg gag tca gat gag gat gag gac tac atc gac acg	7810
His Pro Leu Pro Glu Ser Asp Glu Asp Glu Asp Tyr Ile Asp Thr	
2510 2515 2520	

ggc gcc gcc atc ttg aac ttc tac tgt aca ttg gta gat ctg ctc	7855
Gly Ala Ala Ile Leu Asn Phe Tyr Cys Thr Leu Val Asp Leu Leu	
2525 2530 2535	
gga aga tgt gct cct gat gct ggc gtt att gct ctc ggc aag aac	7900
Gly Arg Cys Ala Pro Asp Ala Gly Val Ile Ala Leu Gly Lys Asn	
2540 2545 2550	
gag tct ctc cgt gcc cgc gct atc ctg cgg tcg ctg gtg ccg ctg	7945
Glu Ser Leu Arg Ala Arg Ala Ile Leu Arg Ser Leu Val Pro Leu	
2555 2560 2565	
gag gac ctg cag gga gtg ctg agc ctg cgc ttc acg ctc aac aac	7990
Glu Asp Leu Gln Gly Val Leu Ser Leu Arg Phe Thr Leu Asn Asn	
2570 2575 2580	
cct gct gct gga gag gaa cga ccc aag tct gat atg cca tcg ggt	8035
Pro Ala Ala Gly Glu Glu Arg Pro Lys Ser Asp Met Pro Ser Gly	
2585 2590 2595	
ctg atc ccg gga cac aag cag agc gtg gga ctg ttc ctg ggg aga	8080
Leu Ile Pro Gly His Lys Gln Ser Val Gly Leu Phe Leu Gly Arg	
2600 2605 2610	
gtg tac ggc atc gaa act cag gag ttg ttc tac aaa ctg ctg gag	8125
Val Tyr Gly Ile Glu Thr Gln Glu Leu Phe Tyr Lys Leu Leu Glu	
2615 2620 2625	
gaa gcc ttc ctg cct gac ctc agg gct gcc act atg ctg gac agg	8170
Glu Ala Phe Leu Pro Asp Leu Arg Ala Ala Thr Met Leu Asp Arg	
2630 2635 2640	
aac gac ggc tgc gaa tca gac atg gcg ctg tcg atg aac cgc tac	8215
Asn Asp Gly Cys Glu Ser Asp Met Ala Leu Ser Met Asn Arg Tyr	
2645 2650 2655	
atc ggc aac tcg atc ctg ccg ctg ctg atc aaa cac gct tac ttc	8260
Ile Gly Asn Ser Ile Leu Pro Leu Leu Ile Lys His Ala Tyr Phe	
2660 2665 2670	
tac aac gaa gct gag aac tac gcc agt tta ttg gat gcc acg cta	8305
Tyr Asn Glu Ala Glu Asn Tyr Ala Ser Leu Leu Asp Ala Thr Leu	
2675 2680 2685	
cat act gtt tat agg tta tcg aag aac cgc atg tta acc aag ggt	8350
His Thr Val Tyr Arg Leu Ser Lys Asn Arg Met Leu Thr Lys Gly	
2690 2695 2700	
caa cgt gaa gcg gtg tca gac ttc cta gtg gcg ctt act tca gcg	8395
Gln Arg Glu Ala Val Ser Asp Phe Leu Val Ala Leu Thr Ser Ala	
2705 2710 2715	
atg cag ccc tct atg ttg ctc aag ctg ctc agg aaa ttg acg gtc	8440
Met Gln Pro Ser Met Leu Leu Lys Leu Leu Arg Lys Leu Thr Val	
2720 2725 2730	
gac gtg tct aaa ctg tcc gag tat act act gtc gct ctt agg ctg	8485
Asp Val Ser Lys Leu Ser Glu Tyr Thr Thr Val Ala Leu Arg Leu	
2735 2740 2745	
ctg acg ctg cac tac gag cgc tgc gcg aag tac tac ggc agc acg	8530
Leu Thr Leu His Tyr Glu Arg Cys Ala Lys Tyr Tyr Gly Ser Thr	
2750 2755 2760	
ggc gcg ggg cag ggc gcg ttc ggc gcg tcg tcg gac gag gag aag	8575
Gly Ala Gly Gln Gly Ala Phe Gly Ala Ser Ser Asp Glu Glu Lys	
2765 2770 2775	
cgc ctc acc atg atg ctc ttc tcc agc atc ttc gac tcg ctc agc	8620
Arg Leu Thr Met Met Leu Phe Ser Ser Ile Phe Asp Ser Leu Ser	
2780 2785 2790	
aag atg gac tac gag ccc gag ctc ttc ggg aag gcg ctg ccc tgt	8665
Lys Met Asp Tyr Glu Pro Glu Leu Phe Gly Lys Ala Leu Pro Cys	
2795 2800 2805	
ctt att gct ata gga tgc gct ctg cct cct gac tac act ctc tca	8710
Leu Ile Ala Ile Gly Cys Ala Leu Pro Pro Asp Tyr Thr Leu Ser	
2810 2815 2820	

aag aac tat gat gat	gag ttt tac ggc aaa	gag caa gct gca ggt	8755
Lys Asn Tyr Asp Asp	Glu Phe Tyr Gly Lys	Glu Gln Ala Ala Gly	
2825	2830	2835	
gac cta gac aac ccc	caa tac gac cct cag	ccc ata aac acg tcc	8800
Asp Leu Asp Asn Pro	Gln Tyr Asp Pro Gln	Pro Ile Asn Thr Ser	
2840	2845	2850	
tca gta gca ttg aac	aat gat ctc aac acg	atc gta cag aag ttc	8845
Ser Val Ala Leu Asn	Asn Asp Leu Asn Thr	Ile Val Gln Lys Phe	
2855	2860	2865	
tcg gaa cat tac cac	gat gcg tgg gct agt	agg aag att gag aac	8890
Ser Glu His Tyr His	Asp Ala Trp Ala Ser	Arg Lys Ile Glu Asn	
2870	2875	2880	
ggc tgg gtg tat ggg	gag ggc tgg tct gat	agc cag aag act cat	8935
Gly Trp Val Tyr Gly	Glu Gly Trp Ser Asp	Ser Gln Lys Thr His	
2885	2890	2895	
cct agg ctg aag cct	tat aat atg ctt aat	gat tat gaa aaa gag	8980
Pro Arg Leu Lys Pro	Tyr Asn Met Leu Asn	Asp Tyr Glu Lys Glu	
2900	2905	2910	
cgt tac aag gag cca	gta cgt gaa tct ctg	aag gct ctt cta gcc	9025
Arg Tyr Lys Glu Pro	Val Arg Glu Ser Leu	Lys Ala Leu Leu Ala	
2915	2920	2925	
atc ggt tgg tct gta	gaa cat tca gaa gta	gac ata ccg agt aac	9070
Ile Gly Trp Ser Val	Glu His Ser Glu Val	Asp Ile Pro Ser Asn	
2930	2935	2940	
aac cga agc tcc atg	gga agg cag tcc aag	tcg gga ggc cgc cct	9115
Asn Arg Ser Ser Met	Gly Arg Gln Ser Lys	Ser Gly Gly Arg Pro	
2945	2950	2955	
ccc gaa att gtg aca	gac tcg gcg act ccg	ttc aac tac aac cct	9160
Pro Glu Ile Val Thr	Asp Ser Ala Thr Pro	Phe Asn Tyr Asn Pro	
2960	2965	2970	
cac cca gtc gac atg	acc aac ttg acg cta	tcg agg gag atg cag	9205
His Pro Val Asp Met	Thr Asn Leu Thr Leu	Ser Arg Glu Met Gln	
2975	2980	2985	
aac atg gcg gag agg	ctc gct gac aac gca	cac gac atc tgg gcg	9250
Asn Met Ala Glu Arg	Leu Ala Asp Asn Ala	His Asp Ile Trp Ala	
2990	2995	3000	
aag aag aag aag gaa	gaa ctt gtt act aat	gga ggt ggc atc cac	9295
Lys Lys Lys Lys Glu	Glu Leu Val Thr Asn	Gly Gly Gly Ile His	
3005	3010	3015	
ccc caa cta gta ccc	tac gac ctc cta aca	gac aaa gaa aag aag	9340
Pro Gln Leu Val Pro	Tyr Asp Leu Leu Thr	Asp Lys Glu Lys Lys	
3020	3025	3030	
aaa gat cga gaa cgt	tct caa gag ttc ctc	aaa tac ctt caa tac	9385
Lys Asp Arg Glu Arg	Ser Gln Glu Phe Leu	Lys Tyr Leu Gln Tyr	
3035	3040	3045	
caa ggg tac aag ctc	cac cgg ccc agc aag	gcg cca caa agt gat	9430
Gln Gly Tyr Lys Leu	His Arg Pro Ser Lys	Ala Pro Gln Ser Asp	
3050	3055	3060	
acg gaa caa acc act	acg ggg gta gca ata	gag ttg aga ttc gca	9475
Thr Glu Gln Thr Thr	Thr Gly Val Ala Ile	Glu Leu Arg Phe Ala	
3065	3070	3075	
tac tcg ctc ctc gag	aaa ttg atc cag tac	atc gat agg gcc acc	9520
Tyr Ser Leu Leu Glu	Lys Leu Ile Gln Tyr	Ile Asp Arg Ala Thr	
3080	3085	3090	
att aat atg aag ctt	ttg aaa cct tcc act	acg ttt agt agg aga	9565
Ile Asn Met Lys Leu	Leu Lys Pro Ser Thr	Thr Phe Ser Arg Arg	
3095	3100	3105	
agt agt ttt aag act	agt acc agg gat att	aag ttc ttt tct aag	9610
Ser Ser Phe Lys Thr	Ser Thr Arg Asp Ile	Lys Phe Phe Ser Lys	
3110	3115	3120	

gtg	gtg	ctg	cct	cta	atg	gag	aag	tat	ttc	tcg	acg	cat	cgt	aac	9655
Val	Val	Leu	Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	
				3125					3130					3135	
tac	ttc	ata	gct	gta	gct	acg	gcg	acg	aat	agt	gtt	ggt	gca	gcc	9700
Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Thr	Asn	Ser	Val	Gly	Ala	Ala	
				3140					3145					3150	
agc	ctg	aag	gag	aaa	gag	atg	gta	gct	gct	ctg	ttc	tgt	aag	ctg	9745
Ser	Leu	Lys	Glu	Lys	Glu	Met	Val	Ala	Ala	Leu	Phe	Cys	Lys	Leu	
				3155					3160					3165	
gct	agc	ttg	ctt	aga	tct	aga	ctc	gca	gct	ttc	ggt	cct	gac	gtc	9790
Ala	Ser	Leu	Leu	Arg	Ser	Arg	Leu	Ala	Ala	Phe	Gly	Pro	Asp	Val	
				3170					3175					3180	
cgc	atc	aca	gtc	cgc	tgt	ctc	caa	gtg	ttg	gtg	agg	ggc	atc	gac	9835
Arg	Ile	Thr	Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Arg	Gly	Ile	Asp	
				3185					3190					3195	
gcc	aag	tcc	tta	gtg	aag	aac	tgc	ccc	gag	ttc	atc	agg	acc	tcc	9880
Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	
				3200					3205					3210	
atg	ttg	acc	ttc	ttc	aac	aat	gtc	gct	gat	gat	gta	ggg	cat	acg	9925
Met	Leu	Thr	Phe	Phe	Asn	Asn	Val	Ala	Asp	Asp	Val	Gly	His	Thr	
				3215					3220					3225	
atc	atg	aat	ttg	cag	gat	ggt	aaa	tac	gca	cac	cta	cga	ggt	acc	9970
Ile	Met	Asn	Leu	Gln	Asp	Gly	Lys	Tyr	Ala	His	Leu	Arg	Gly	Thr	
				3230					3235					3240	
cac	ttg	aag	aca	tcc	acg	tct	ctc	ggc	tat	atc	cac	gga	gta	ctg	10015
His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Ile	His	Gly	Val	Leu	
				3245					3250					3255	
ctc	ccc	ata	ctg	aca	gcc	aaa	ttc	gac	cat	ctg	gct	aac	tgc	gag	10060
Leu	Pro	Ile	Leu	Thr	Ala	Lys	Phe	Asp	His	Leu	Ala	Asn	Cys	Glu	
				3260					3265					3270	
tac	ggt	gct	gat	ctg	ttg	ttg	gac	gag	ata	caa	gtg	gcg	tca	tac	10105
Tyr	Gly	Ala	Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	
				3275					3280					3285	
aag	atg	ttg	ggc	tcc	ctg	tac	gcg	ctc	ggc	acg	gac	gct	tcg	ctc	10150
Lys	Met	Leu	Gly	Ser	Leu	Tyr	Ala	Leu	Gly	Thr	Asp	Ala	Ser	Leu	
				3290					3295					3300	
aca	cac	gac	aga	aag	tac	ctc	aag	act	gag	att	gag	aga	cat	aaa	10195
Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Lys	
				3305					3310					3315	
cct	gct	ttg	ggt	tca	tgt	cta	ggt	gcg	ttc	agt	tcg	aca	ttc	cca	10240
Pro	Ala	Leu	Gly	Ser	Cys	Leu	Gly	Ala	Phe	Ser	Ser	Thr	Phe	Pro	
				3320					3325					3330	
gta	gcg	ttc	cag	gag	cct	cac	ttg	aac	aaa	cac	aac	cag	ttc	tcc	10285
Val	Ala	Phe	Gln	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Phe	Ser	
				3335					3340					3345	
ttg	ctg	aac	agg	atc	gct	gac	cat	tct	ttg	gaa	gcc	caa	gac	ata	10330
Leu	Leu	Asn	Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	
				3350					3355					3360	
atg	cag	aaa	atg	gaa	caa	tgc	atg	ccg	acg	tta	gag	acg	atc	tta	10375
Met	Gln	Lys	Met	Glu	Gln	Cys	Met	Pro	Thr	Leu	Glu	Thr	Ile	Leu	
				3365					3370					3375	
ggc	gag	gtg	gac	caa	ttc	gtg	gag	tca	gac	aag	acg	tac	aac	gaa	10420
Gly	Glu	Val	Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Glu	
				3380					3385					3390	
gcg	ccg	cat	atc	atc	gat	gtg	gtg	ttg	cct	tta	ctc	tgt	tct	tac	10465
Ala	Pro	His	Ile	Ile	Asp	Val	Val	Leu	Pro	Leu	Leu	Cys	Ser	Tyr	
				3395					3400					3405	
ttg	ccg	ttc	tgg	tgg	gca	cag	ggg	cct	gat	aat	gtc	act	cct	act	10510
Leu	Pro	Phe	Trp	Trp	Ala	Gln	Gly	Pro	Asp	Asn	Val	Thr	Pro	Thr	
				3410					3415					3420	

ggc gga aac cac gta	aca atg gta aca gcg	gaa cac atg aac cag	10555
Gly Gly Asn His Val	Thr Met Val Thr Ala	Glu His Met Asn Gln	
3425	3430	3435	
ctc ctc aag aat gtt	ctg aag ctc atc aaa	aag aac atc ggc aat	10600
Leu Leu Lys Asn Val	Leu Lys Leu Ile Lys	Lys Asn Ile Gly Asn	
3440	3445	3450	
gag aac gcg ccg tgg	atg acc cgc ata gcc	acc tac acc cag cag	10645
Glu Asn Ala Pro Trp	Met Thr Arg Ile Ala	Thr Tyr Thr Gln Gln	
3455	3460	3465	
atc atc atc aac agc	tcc gag gag ttg ctg	agg gat tcc ttc ctg	10690
Ile Ile Ile Asn Ser	Ser Glu Glu Leu Leu	Arg Asp Ser Phe Leu	
3470	3475	3480	
ccg ctc gct gaa cgt	gtt cgc aag cgc acg	gac aat atg ttc cat	10735
Pro Leu Ala Glu Arg	Val Arg Lys Arg Thr	Asp Asn Met Phe His	
3485	3490	3495	
aag gag gag agc ttg	aga ggg ttt att aag	tcg tca aca gac gac	10780
Lys Glu Glu Ser Leu	Arg Gly Phe Ile Lys	Ser Ser Thr Asp Asp	
3500	3505	3510	
aca tct caa gta gag	tca cag ata caa gaa	gac tgg cag ctg ctg	10825
Thr Ser Gln Val Glu	Ser Gln Ile Gln Glu	Asp Trp Gln Leu Leu	
3515	3520	3525	
gtc aga gac atc tac	tcc ttc tac ccg cta	ctc atc aag tac gtc	10870
Val Arg Asp Ile Tyr	Ser Phe Tyr Pro Leu	Leu Ile Lys Tyr Val	
3530	3535	3540	
gac ctg cag agg aac	cac tgg ctc agg aac	aat gtt cca gag gcg	10915
Asp Leu Gln Arg Asn	His Trp Leu Arg Asn	Asn Val Pro Glu Ala	
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gaa gag ctg tac aac	cac gtg gcc gaa atc	ttc aac ata tgg tcg	10960
Glu Glu Leu Tyr Asn	His Val Ala Glu Ile	Phe Asn Ile Trp Ser	
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Lys Ser Gln Tyr Phe	Leu Lys Glu Glu Gln	Asn Phe Ile Ser Ala	
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aac gag att gat aac	atg gtg ctg att atg	cca aca gca aca aga	11050
Asn Glu Ile Asp Asn	Met Val Leu Ile Met	Pro Thr Ala Thr Arg	
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aga gtg aca gca gta	aca gat ggt act cct	caa ggc ggt gga aag	11095
Arg Val Thr Ala Val	Thr Asp Gly Thr Pro	Gln Gly Gly Gly Lys	
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aaa aag aag aag cac	cgt gat aag aaa cgc	gac aaa gac aag gaa	11140
Lys Lys Lys Lys His	Arg Asp Lys Lys Arg	Asp Lys Asp Lys Glu	
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Val Gln Ala Ser Leu	Met Val Ala Cys Leu	Lys Arg Leu Leu Pro	
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Val Gly Leu Asn Leu	Phe Ala Gly Arg Glu	Gln Glu Leu Val Gln	
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cat tgt aaa gac agg	ttc ctg aag gta ggg	acc ctc aag aaa atg	11275
His Cys Lys Asp Arg	Phe Leu Lys Val Gly	Thr Leu Lys Lys Met	
3665	3670	3675	
tca gaa caa gat gtg	gca gaa ttc gcg aag	acc cag ctg aca ctt	11320
Ser Glu Gln Asp Val	Ala Glu Phe Ala Lys	Thr Gln Leu Thr Leu	
3680	3685	3690	
cca gat aaa ata gat	ccg gca gac gaa atg	tct tgg caa cat tac	11365
Pro Asp Lys Ile Asp	Pro Ala Asp Glu Met	Ser Trp Gln His Tyr	
3695	3700	3705	
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Leu Tyr Ser Lys Leu	Gly Ser Lys Ser Lys	Ser Asn Ile Thr Val	
3710	3715	3720	

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Glu Thr Ala Glu Asn	Lys Ala Lys Ile	Ile Asp Asp Thr Val Glu	
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Arg Ile Val Ala Met	Ser Lys Val Leu Phe	Gly Leu His Met Ile	
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Asp His Pro Gln Gln	Met Ser Lys Asn Val	Tyr Arg Ser Val Val	
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Ser Ile Gln Arg Lys	Arg Ala Val Ile Ala	Cys Phe Arg Gln Thr	
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Ser Leu His Ser Leu	Pro Arg His Arg Ala	Cys Asn Ile Phe Ala	
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Arg Thr Tyr Tyr Glu	Leu Trp Leu Glu Glu	Glu Asn Ile Arg Gln	
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Glu Val Met Ile Glu	Asp Leu Thr Gln Ser	Phe Glu Asp Ala Glu	
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Leu Lys Lys Ser Asp	Val Val Glu Glu Gly	Glu Lys Pro Asp Pro	
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Arg Ser Gly Ala Leu	Gln Glu Asp Pro Leu	Tyr Met Ser Tyr Ala	
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His Ile Ile Ala Lys	Ser Cys Gly Glu Glu	Glu Glu Glu Gly Gly	
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Gly Glu Glu Glu Glu	Gly Gly Gly Glu Ala	Glu Ala Glu Asp Glu	
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Leu Phe His Gln Ala	Arg Pro Ala Asp Arg	Gly Val Ala Glu Met	
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Val Leu Leu His Ile	Ser Ala Ser Lys Gly	Leu Pro Ser Glu Met	
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Val Met Lys Thr Leu	Gln Leu Gly Ile Ser	Ile Leu Arg Gly Gly	
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Asn Ile Asp Ile Gln	Met Gly Met Leu Asn	His Leu Lys Asp Lys	
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Cys Ser Val Leu Asp	Leu Asp Ala Phe Glu	Arg Asn Thr Lys Ala	
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Val Asp Tyr Leu Leu	Arg Leu Gln Glu Ser	Ile Met Asp Phe Tyr	
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Trp His Tyr Ser Ser	Lys Glu Leu Ile Asp	Pro Ala Gly Lys Ala	
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Asn Phe Phe Lys Ala	Ile Gly Val Ala Ser	Gln Val Phe Asn Thr	
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Leu Phe Ser His Met	Gln Asp Lys Leu Ser	Lys His Ser Ser Gln	
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Val Asp Leu Leu Lys	Glu Leu Leu Asn Pro	Gln Lys Asp Met Ile	
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Thr Met Met Leu Ser	Met Leu Glu Gly Asn	Val Val Asn Gly Thr	
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Val Glu Leu Ile Leu	Lys Tyr Phe Asp Met	Phe Leu Lys Leu Lys	
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Cys Glu Thr Asn His	Asp Gly Lys Leu Asp	Tyr Ile Gly Phe Cys	
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180     185     190
Asn Ala Ser Phe His Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr
195     200     205
Gly Ile Ser Arg Met Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val
210     215     220
Leu Arg Phe Phe His Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr
225     230     235     240
Trp Thr Lys Asp Gly Gly Gln Asn Ile Val Val Tyr Lys Gly Gly Ser
245     250     255
Val Met Ser Gln Ala Arg Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr
260     265     270
Lys Trp Ala Gly Gly Phe Ile Asn Trp Tyr His Pro Met Arg Ile Arg
275     280     285
His Ile Thr Thr Gly Arg Tyr Leu Gly Val Asn Asp Gln Asn Glu Leu
290     295     300
Tyr Leu Val Ser Arg Glu Glu Pro Thr Thr Ala Ser Cys Ala Phe Cys
305     310     315     320
Leu Arg Gln Glu Lys Asp Asp Gln Lys Gln Val Leu Glu Asp Lys Asp
325     330     335
Leu Glu Val Ile Gly Ala Pro Ile Ile Lys Tyr Gly Asp Ser Thr Val
340     345     350
Ile Val Gln His Ser Glu Thr Gly Leu Trp Leu Ser Tyr Lys Ser Tyr
355     360     365
Glu Thr Lys Lys Lys Gly Val Gly Lys Val Glu Glu Lys Gln Ala Ile
370     375     380
Leu His Glu Glu Gly Lys Met Asp Asp Gly Leu Asp Leu Ser Arg Ser
385     390     395     400
Gln Glu Glu Glu Ser Met Thr Ala Arg Val Ile Arg Lys Cys Ser Ser
405     410     415
Leu Phe Thr Lys Phe Ile Asn Gly Leu Glu Thr Leu Gln Glu Asn Arg
420     425     430
Arg His Ser Met Phe Phe Ala Ser Val Asn Leu Gly Glu Met Val Met
435     440     445
Cys Leu Glu Asp Leu Thr Asn Tyr Phe Ala Gln Pro Asp Glu Asp Met
450     455     460

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Glu	His	Glu	Glu	Lys	Gln	Asn	Lys	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	
465					470					475					480	
Asp	Leu	Phe	Gln	Glu	Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	
				485					490						495	
Asp	Lys	Ile	Asn	Val	Val	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu	
			500					505					510			
Ala	Gly	Asp	Glu	Ser	Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu	
		515					520					525				
Tyr	Gln	Leu	Leu	Ala	Ala	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala		
	530					535				540						
Gln	Phe	Ala	Asn	Ser	Asn	Arg	Phe	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly	
545					550					555					560	
Ser	Gln	Ala	Ser	Gly	Glu	Gly	Thr	Gly	Met	Leu	Asp	Val	Leu	His	Cys	
				565					570						575	
Ile	Leu	Ile	Asp	Ser	Pro	Glu	Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His	
			580					585					590			
Ile	Lys	Val	Ile	Ile	Ser	Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys	
		595					600					605				
Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val	
	610					615					620					
Arg	Ser	Ser	Gln	Asn	Asn	Ile	Cys	Asp	Tyr	Leu	Leu	Pro	Gly	Lys	Asn	
625					630					635					640	
Leu	Leu	Leu	Gln	Thr	Ala	Leu	Val	Asp	His	Val	Ser	Ser	Val	Arg	Pro	
				645					650						655	
Asn	Ile	Phe	Val	Gly	Arg	Val	Glu	Gly	Ser	Ala	Val	Tyr	Arg	Lys	Trp	
			660					665					670			
Tyr	Phe	Glu	Val	Thr	Met	Asp	His	Ile	Glu	Lys	Thr	Thr	His	Met	Met	
		675					680					685				
Pro	His	Leu	Arg	Ile	Gly	Trp	Ala	Asn	Thr	Thr	Gly	Tyr	Val	Pro	Tyr	
	690					695					700					
Pro	Gly	Gly	Gly	Glu	Lys	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu	
705					710					715					720	
Tyr	Ser	Tyr	Gly	Phe	Asp	Gly	Ala	Tyr	Leu	Trp	Ser	Gly	Gly	Arg	Lys	
				725					730						735	
Thr	Pro	Val	Asn	Arg	Thr	His	Ala	Glu	Glu	Pro	Tyr	Ile	Arg	Lys	Gly	
			740					745					750			
Asp	Val	Ile	Gly	Cys	Ala	Leu	Asp	Leu	Thr	Val	Pro	Ile	Ile	Asn	Phe	
		755					760					765				
Met	Phe	Asn	Gly	Val	Arg	Val	Thr	Gly	Ser	Phe	Thr	Asn	Phe	Asn	Leu	
	770					775					780					
Glu	Gly	Met	Phe	Phe	Pro	Val	Ile	Ser	Cys	Ser	Ser	Lys	Leu	Ser	Cys	
785					790					795					800	
Arg	Phe	Leu	Leu	Gly	Gly	Glu	His	Gly	Arg	Leu	Arg	Tyr	Ala	Ala	Pro	
				805					810						815	
Glu	Gly	Tyr	Ser	Pro	Leu	Val	Glu	Ser	Leu	Leu	Pro	Gln	Gln	Ile	Leu	
			820					825					830			
Ser	Leu	Glu	Pro	Cys	Phe	Tyr	Phe	Gly	Asn	Leu	Ser	Lys	Arg	Ala	Leu	
		835					840					845				
Ala	Gly	Pro	Pro	Leu	Val	Gln	Asp	Asp	Thr	Ala	Phe	Val	Pro	Thr	Pro	
	850					855					860					
Val	Asp	Thr	Leu	Gln	Ile	Thr	Leu	Pro	Thr	Tyr	Val	Glu	Gln	Ile	Arg	
865					870					875					880	
Asp	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	Met	Trp	Ala	Met	Asn	Lys	Ile	
				885					890						895	
Glu	Ala	Gly	Trp	Met	Tyr	Gly	Asp	Gln	Arg	Glu	Asp	Leu	His	Lys	Ile	
			900				905						910			
His	Pro	Cys	Leu	Val	Pro	Phe	Glu	Arg	Leu	Pro	Pro	Ala	Glu	Lys	Arg	
		915					920					925				
Tyr	Asp	Ile	Gln	Leu	Ala	Val	Gln	Thr	Leu	Lys	Thr	Ile	Leu	Ala	Leu	
	930					935						940				

Gly	Tyr	Tyr	Ile	Ser	Leu	Asp	Lys	Pro	Pro	Ala	Arg	Ile	Arg	Asn	Val	945	950	955	960
Arg	Leu	Pro	Asn	Glu	Pro	Phe	Met	Gln	Ser	Asn	Gly	Tyr	Lys	Pro	Ala	965	970	975	
Pro	Leu	Asp	Leu	Ser	Ala	Val	Thr	Leu	Thr	Pro	Lys	Met	Asp	Glu	Leu	980	985	990	
Val	Gly	Gln	Leu	Ala	Glu	Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	995	1000	1005	
Ile	Gln	Gln	Gly	Trp	Thr	Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Asp	Met		1010	1015	1020	
His	Arg	Ser	Pro	His	Leu	Val	Pro	Tyr	Pro	Lys	Val	Asp	Asp	Ala		1025	1030	1035	
Ile	Lys	Lys	Ala	Asn	Arg	Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr		1040	1045	1050	
Leu	Leu	Val	Tyr	Gly	Tyr	Met	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gln		1055	1060	1065	
His	Glu	Ala	Leu	Leu	Leu	Glu	Ala	Ser	Lys	Gln	Lys	Gln	Ala	Asp		1070	1075	1080	
Phe	Arg	Thr	Tyr	Arg	Ala	Glu	Lys	Asn	Tyr	Ala	Val	Ser	Ser	Gly		1085	1090	1095	
Lys	Trp	Tyr	Phe	Glu	Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg		1100	1105	1110	
Val	Gly	Trp	Ala	His	Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly		1115	1120	1125	
Gln	Asp	Glu	Asn	Ser	Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys		1130	1135	1140	
Val	Tyr	Ser	Gly	Asn	Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val		1145	1150	1155	
Gly	Asp	Val	Val	Gly	Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile		1160	1165	1170	
Ser	Phe	Ser	Leu	Asn	Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly		1175	1180	1185	
Glu	Thr	Thr	Phe	Ala	Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala		1190	1195	1200	
Cys	Thr	Leu	Gly	Val	Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln		1205	1210	1215	
Asp	Val	Asn	Thr	Leu	Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu		1220	1225	1230	
Gly	Tyr	Glu	Pro	Phe	Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His		1235	1240	1245	
Trp	Tyr	Thr	Lys	Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met		1250	1255	1260	
Ile	Asp	Thr	Arg	Ile	Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp		1265	1270	1275	
Thr	Pro	Pro	Cys	Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met		1280	1285	1290	
Glu	Lys	Ala	Asn	Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile		1295	1300	1305	
Cys	His	Asn	Glu	Phe	Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp		1310	1315	1320	
Val	Glu	Ile	Lys	Asp	Arg	Gln	Arg	Ile	Leu	Met	Lys	Glu	Ala	Val		1325	1330	1335	
Glu	Ala	Gln	Met	Ser	Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly		1340	1345	1350	
Phe	Thr	Met	Asn	Asp	Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln		1355	1360	1365	
Glu	Glu	Leu	Pro	Ser	Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro		1370	1375	1380	
Pro	Arg	Lys	Gly	Ser	Met	Thr	Arg	Gly	Val	Thr	Ile	Gln	Asn	Tyr		1385	1390	1395	

Asn	Asn	Leu	Gln	Pro	Gly	Gln	Val	Asn	Gly	Met	His	Arg	Ser	Thr
	1400					1405					1410			
Ser	Glu	Ala	Glu	Met	Ala	Lys	Tyr	Asp	Leu	Gly	Ala	Gln	Gly	Leu
	1415					1420					1425			
Thr	Pro	Asp	Asp	Lys	Lys	Asp	Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys
	1430					1435					1440			
Phe	Phe	Arg	Ser	Lys	Arg	Gly	Glu	Ser	Ser	Asp	Arg	Ala	Lys	Ser
	1445					1450					1455			
Arg	Lys	Ser	Lys	Thr	Pro	Asp	Pro	Phe	Ser	Asp	Thr	Glu	Val	Ser
	1460					1465					1470			
Pro	Glu	Arg	Gly	Ala	Arg	Arg	Pro	Asn	Pro	Gln	Ile	Lys	Val	Ser
	1475					1480					1485			
Gln	Ala	Asn	Gln	Arg	Tyr	Asn	Gly	Met	Asn	Ala	Arg	Pro	Ser	Arg
	1490					1495					1500			
Thr	Asn	Leu	Tyr	Gly	Ser	Gln	Val	Gly	Leu	Asn	Ser	Asn	Ala	Gln
	1505					1510					1515			
Met	Ala	Thr	Pro	Thr	Gln	Asp	Arg	Lys	Gln	Met	Thr	Thr	Ser	Thr
	1520					1525					1530			
Leu	Ala	Gln	Ser	Ala	Thr	Glu	Thr	Val	Gly	Asn	Glu	Ile	Phe	Asp
	1535					1540					1545			
Ala	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu	Tyr	Phe	Tyr	Gly	Val	Arg
	1550					1555					1560			
Ile	Tyr	Pro	Gly	Gln	Asp	Pro	Thr	His	Met	Tyr	Ile	Gly	Trp	Val
	1565					1570					1575			
Thr	Thr	Gln	Tyr	His	Leu	His	Ser	Lys	Asp	Phe	Asn	Gln	Ser	Lys
	1580					1585					1590			
Val	Thr	Lys	Ser	Ser	Val	Ile	Ile	Thr	Asp	Asp	Tyr	Asp	Arg	Val
	1595					1600					1605			
Val	Glu	Asn	Val	Asn	Arg	Gln	Ser	Cys	Tyr	Met	Val	Arg	Ala	Asp
	1610					1615					1620			
Glu	Leu	Tyr	Asn	Glu	Val	Met	Ala	Glu	Ala	Thr	Ala	Lys	Gly	Ala
	1625					1630					1635			
Ser	Gln	Gly	Met	Phe	Ile	Gly	Cys	Ser	Val	Asp	Thr	Ser	Thr	Gly
	1640					1645					1650			
Ser	Val	Ser	Phe	Thr	Cys	Glu	Gly	Lys	Asp	Thr	Ser	Phe	Lys	Phe
	1655					1660					1665			
Lys	Met	Glu	Pro	Glu	Thr	Lys	Leu	Phe	Pro	Ala	Ile	Ser	Val	Glu
	1670					1675					1680			
Ala	Thr	Ser	Lys	Glu	Ile	Leu	Gln	Ile	Glu	Leu	Gly	Arg	Ser	Ala
	1685					1690					1695			
Thr	Ser	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro	Thr	Ser	Asp	Lys
	1700					1705					1710			
His	Val	Ile	Pro	Gln	Phe	Pro	Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu
	1715					1720					1725			
Lys	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Gln	Ser	Leu	Gln	Val
	1730					1735					1740			
His	Ala	Leu	Lys	Leu	Ser	Gly	Ile	Arg	Gly	Trp	Xaa	Met	Leu	Cys
	1745					1750					1755			
Glu	Asp	Ala	Val	Ser	Met	Leu	Ala	Leu	His	Ile	Pro	Glu	Glu	Asp
	1760					1765					1770			
Arg	Cys	Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met	Asp	Lys	Leu	Leu
	1775					1780					1785			
Ser	Phe	His	Ser	His	Thr	Leu	Thr	Leu	Tyr	Ala	Ala	Leu	Cys	Tyr
	1790					1795					1800			
Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys	Ser	His	Ala	Asp
	1805					1810					1815			
Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Gln	Ser	Gln	Tyr	Met	Ser	Gly
	1820					1825					1830			
Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Thr	Ala	Leu	His	Leu
	1835					1840					1845			

Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Ala	Cys	Lys	Asn	Glu	Phe	Val
1850						1855					1860			
Ile	Pro	Leu	Gly	Pro	Glu	Leu	Lys	Ala	Leu	Tyr	Glu	Glu	Pro	Asp
1865						1870					1875			
Met	Gly	His	Ser	Leu	Arg	Ser	Leu	Gln	Thr	Glu	Ser	Val	Arg	Pro
1880						1885					1890			
Gln	Met	Lys	Met	Thr	Asp	Ile	Ala	Glu	Ser	Ile	Thr	Glu	Ile	Ser
1895						1900					1905			
Asn	Leu	Tyr	Ser	Pro	Tyr	Phe	Pro	Leu	Glu	Val	Val	Arg	Glu	Phe
1910						1915					1920			
Val	Met	Gln	Ala	Leu	Ala	Glu	Ala	Val	Glu	Thr	Asn	Gln	Val	His
1925						1930					1935			
Asn	Trp	Asp	Pro	Val	Gly	Gly	Ser	Asn	Glu	Asn	Leu	Phe	Leu	Pro
1940						1945					1950			
Leu	Ile	Lys	Leu	Val	Asp	Arg	Leu	Leu	Leu	Val	Gly	Met	Met	Arg
1955						1960					1965			
Asp	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile	Met	Thr	Asn	Pro	Glu	Thr
1970						1975					1980			
Trp	Asp	Pro	Ser	Phe	Asp	Lys	Glu	Gly	Lys	Asp	Glu	His	Arg	Lys
1985						1990					1995			
Gly	Leu	Leu	His	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys	Leu	Gln	Met
2000						2005					2010			
Cys	Tyr	Leu	Leu	Gln	His	Leu	Asn	Asp	Ile	Gln	Leu	Arg	His	Arg
2015						2020					2025			
Val	Glu	Ala	Thr	Ile	Ala	Phe	Ala	His	Asp	Phe	Val	Gly	Asp	Leu
2030						2035					2040			
Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Thr	Glu	Ile	Lys	Gln	Ser	Asp
2045						2050					2055			
Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Arg	Glu	Phe	Arg	Cys
2060						2065					2070			
Pro	Pro	Arg	Glu	Gln	Met	Asn	Val	Ile	Leu	Ser	Phe	Lys	His	Leu
2075						2080					2085			
Glu	Glu	Glu	Asp	Lys	Glu	Asn	Cys	Pro	Cys	Gly	Glu	Glu	Leu	Ile
2090						2095					2100			
Ala	Arg	Met	Asn	Glu	Phe	His	Asp	Thr	Leu	Met	Ala	His	Val	Ser
2105						2110					2115			
Leu	His	Ala	Leu	Gln	Glu	Pro	Asp	Ala	Ala	Glu	Asn	Gln	Glu	Pro
2120						2125					2130			
Glu	Ala	Lys	Pro	Gly	Ala	Phe	Gly	Lys	Leu	Tyr	Asn	Ile	Ile	Asn
2135						2140					2145			
Thr	Val	Lys	Glu	Leu	Glu	Glu	Glu	Ala	Lys	Ala	Ile	Glu	Glu	Pro
2150						2155					2160			
Pro	Lys	Lys	Thr	Pro	Glu	Glu	Lys	Phe	Arg	Lys	Val	Leu	Ile	Gln
2165						2170					2175			
Thr	Ile	Val	Asn	Trp	Ala	Glu	Glu	Ser	Gln	Ile	Glu	Thr	Pro	Lys
2180						2185					2190			
Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Val	Arg	Gln	Tyr	Asp	Ala
2195						2200					2205			
Val	Gly	Glu	Leu	Ile	Arg	Ala	Leu	Glu	Lys	Thr	Tyr	Val	Ile	Asn
2210						2215					2220			
Ala	Lys	Thr	Lys	Leu	Asp	Val	Ala	Glu	Met	Trp	Val	Gly	Leu	Ser
2225						2230					2235			
Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln	Glu	Glu	Glu
2240						2245					2250			
Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val	Asn	Asn	His	Thr
2255						2260					2265			
Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Val	Leu	Arg	Val	His	Glu
2270						2275					2280			
Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly	Arg	Arg	Ala	Gln
2285						2290					2295			

Ala	Gln	Ser	Asp	Ala	Gln	Pro	Ser	Ser	Gln	Pro	Val	Ala	Glu	Asp
2300						2305					2310			
Asn	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met	Val	Val	Ala	Cys	Cys
2315						2320					2325			
Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly	Arg	Gln	Asn	Gln	Lys
2330						2335					2340			
Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu	Glu	Asn	Ser	Asn	Ile
2345						2350					2355			
Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr	Pro	Leu	Asp	Val
2360						2365					2370			
Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu	Ala	Leu	Ala	Leu
2375						2380					2385			
Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val	Tyr	Leu	Ser	Arg	Cys
2390						2395					2400			
Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu	Lys	Gly	Tyr	Pro	Asp
2405						2410					2415			
Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg	Tyr	Leu	Asp	Phe	Leu
2420						2425					2430			
Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser	Val	Glu	Glu	Asn	Ala
2435						2440					2445			
Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg	Pro	Glu	Cys	Leu	Gly
2450						2455					2460			
Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu	Leu	Lys	Ala	Ile	Val
2465						2470					2475			
Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile	Ala	Asp	Arg	Arg	Lys	Leu
2480						2485					2490			
Arg	Glu	Met	Glu	Gln	Glu	Gly	Asp	Val	Asn	Phe	Ser	His	Pro	Leu
2495						2500					2505			
Pro	Glu	Ser	Asp	Glu	Asp	Glu	Asp	Tyr	Ile	Asp	Thr	Gly	Ala	Ala
2510						2515					2520			
Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu	Val	Asp	Leu	Leu	Gly	Arg	Cys
2525						2530					2535			
Ala	Pro	Asp	Ala	Gly	Val	Ile	Ala	Leu	Gly	Lys	Asn	Glu	Ser	Leu
2540						2545					2550			
Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser	Leu	Val	Pro	Leu	Glu	Asp	Leu
2555						2560					2565			
Gln	Gly	Val	Leu	Ser	Leu	Arg	Phe	Thr	Leu	Asn	Asn	Pro	Ala	Ala
2570						2575					2580			
Gly	Glu	Glu	Arg	Pro	Lys	Ser	Asp	Met	Pro	Ser	Gly	Leu	Ile	Pro
2585						2590					2595			
Gly	His	Lys	Gln	Ser	Val	Gly	Leu	Phe	Leu	Gly	Arg	Val	Tyr	Gly
2600						2605					2610			
Ile	Glu	Thr	Gln	Glu	Leu	Phe	Tyr	Lys	Leu	Leu	Glu	Glu	Ala	Phe
2615						2620					2625			
Leu	Pro	Asp	Leu	Arg	Ala	Ala	Thr	Met	Leu	Asp	Arg	Asn	Asp	Gly
2630						2635					2640			
Cys	Glu	Ser	Asp	Met	Ala	Leu	Ser	Met	Asn	Arg	Tyr	Ile	Gly	Asn
2645						2650					2655			
Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys	His	Ala	Tyr	Phe	Tyr	Asn	Glu
2660						2665					2670			
Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu	Asp	Ala	Thr	Leu	His	Thr	Val
2675						2680					2685			
Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met	Leu	Thr	Lys	Gly	Gln	Arg	Glu
2690						2695					2700			
Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu	Thr	Ser	Ala	Met	Gln	Pro
2705						2710					2715			
Ser	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys	Leu	Thr	Val	Asp	Val	Ser
2720						2725					2730			
Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala	Leu	Arg	Leu	Leu	Thr	Leu
2735						2740					2745			

His	Tyr	Glu	Arg	Cys	Ala	Lys	Tyr	Tyr	Gly	Ser	Thr	Gly	Ala	Gly
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Gln	Gly	Ala	Phe	Gly	Ala	Ser	Ser	Asp	Glu	Glu	Lys	Arg	Leu	Thr
2765						2770					2775			
Met	Met	Leu	Phe	Ser	Ser	Ile	Phe	Asp	Ser	Leu	Ser	Lys	Met	Asp
2780						2785					2790			
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2795						2800					2805			
Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr	Thr	Leu	Ser	Lys	Asn	Tyr
2810						2815					2820			
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2825						2830					2835			
Asn	Pro	Gln	Tyr	Asp	Pro	Gln	Pro	Ile	Asn	Thr	Ser	Ser	Val	Ala
2840						2845					2850			
Leu	Asn	Asn	Asp	Leu	Asn	Thr	Ile	Val	Gln	Lys	Phe	Ser	Glu	His
2855						2860					2865			
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2870						2875					2880			
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2885						2890					2895			
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2900						2905					2910			
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Thr Ser	Thr Ser Leu Gly	Tyr	Ile His Gly Val	Leu	Leu Pro Ile
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His Val	Thr Met Val Thr	Ala	Glu His Met Asn	Gln	Leu Leu Lys
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Asn Val	Leu Lys Leu Ile	Lys	Lys Asn Ile Gly	Asn	Glu Asn Ala
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Pro Trp	Met Thr Arg Ile	Ala	Thr Tyr Thr Gln	Gln	Ile Ile Ile
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Val Glu	Ser Gln Ile Gln	Glu	Asp Trp Gln Leu	Leu	Val Arg Asp
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Ile Tyr	Ser Phe Tyr Pro	Leu	Leu Ile Lys Tyr	Val	Asp Leu Gln
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Arg Asn	His Trp Leu Arg	Asn	Asn Val Pro Glu	Ala	Glu Glu Leu
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Tyr Asn	His Val Ala Glu	Ile	Phe Asn Ile Trp	Ser	Lys Ser Gln
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Lys His	Arg Asp Lys Lys	Arg	Asp Lys Asp Lys	Glu	Val Gln Ala
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Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val Phe
50 55 60

Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
65 70 75 80

Ala Ala Ser Ser Gln Glu Gly Lys Gly Gly Thr Gly Ser Gly His Arg
85 90 95

Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Gln Asn Ser Asp
100 105 110

Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser
115 120 125

Phe Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp
130 135 140

Thr Val His Pro Ala Ser Asn Gln Arg Ser Glu Gly Glu Lys Val Pro
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Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu
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His Thr Ala Lys Glu Asn Glu Leu Ser Val Val Asn Ala Ser Phe His
180 185 190

Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met
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Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His
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Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Ser Trp Ser Asn Val Ser
225 230 235 240

Gly Gln Asn Ile Val Ile Tyr Glu Gly Gly Ser Val Met Ser Gln Ala
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2060						2065					2070			
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2075						2080					2085			
Arg	Met	Asn	Glu	Phe	Asn	Glu	Arg	Leu	Met	Lys	Gln	Ile	Ser	Leu
2090						2095					2100			

Val	Ala	Leu	Gln	Glu	Ser	Glu	Asp	Asp	Lys	Ser	Asp	Leu	Asn	Asn
2105						2110					2115			
Leu	Asn	Lys	Glu	Gly	Lys	Ile	Lys	Gln	Phe	Tyr	Asn	Phe	Ile	Asn
2120						2125					2130			
Ala	Val	Lys	Asp	Glu	Ala	Asn	Glu	Asp	Gly	Leu	Asn	Glu	His	Glu
2135						2140					2145			
Lys	Lys	Ile	Pro	Glu	Glu	Ile	Phe	Arg	Lys	Val	Leu	Ile	Ser	Thr
2150						2155					2160			
Ile	Val	Ser	Trp	Ala	Glu	Glu	Thr	Gln	Ile	Glu	Thr	Pro	Lys	Leu
2165						2170					2175			
Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Val	Arg	Gln	Tyr	Asp	Ser	Val
2180						2185					2190			
Gly	Glu	Leu	Ile	Arg	Ala	Leu	Glu	Lys	Thr	Tyr	Val	Ile	Asn	Phe
2195						2200					2205			
Lys	Thr	Lys	Glu	Asp	Val	Ala	Gln	Met	Trp	Val	Gly	Leu	Ser	Gln
2210						2215					2220			
Ile	Arg	Ser	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln	Glu	Glu	Glu	Glu
2225						2230					2235			
Leu	Met	Arg	Glu	Arg	Leu	Trp	Lys	Leu	Val	Asn	Asn	His	Thr	Phe
2240						2245					2250			
Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Val	Leu	Arg	Met	His	Glu	Asn
2255						2260					2265			
Val	Met	Ala	Val	Val	Met	Asn	Thr	Pro	Gly	Arg	Arg	Ala	Gln	Ala
2270						2275					2280			
Gln	Ser	Gln	Pro	Gly	Gly	Thr	Pro	Val	Thr	Gly	Gln	Asp	Gly	Glu
2285						2290					2295			
Ile	Val	Pro	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met	Val	Val	Ala
2300						2305					2310			
Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Ser	Arg	Gln	Asn
2315						2320					2325			
Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Ser	Phe	Leu	Leu	Glu	Asn	Ser
2330						2335					2340			
Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr	Pro	Leu
2345						2350					2355			
Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu	Ala	Leu
2360						2365					2370			
Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Ile	Tyr	Leu	Ser
2375						2380					2385			
Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Ile	Glu	Lys	Gly	Tyr
2390						2395					2400			

Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg	Tyr	Leu	Asp
2405						2410					2415			
Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser	Val	Glu	Glu
2420						2425					2430			
Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg	Pro	Glu	Cys
2435						2440					2445			
Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu	Leu	Arg	Ala
2450						2455					2460			
Ile	Ile	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile	Thr	Glu	Arg	Arg
2465						2470					2475			
Lys	Phe	Leu	Glu	Glu	Ser	Gly	Asn	Gln	Glu	Asn	Ile	Gln	Leu	Asp
2480						2485					2490			
His	Pro	Leu	Pro	Glu	Ser	Asp	Asp	Asp	Glu	Asp	Tyr	Ile	Asp	Thr
2495						2500					2505			
Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu	Val	Asp	Leu	Leu
2510						2515					2520			
Gly	Arg	Tyr	Ala	Pro	Asp	Ser	Ser	Val	Ile	Ser	Leu	Gly	Lys	Asn
2525						2530					2535			
Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser	Leu	Val	Pro	Leu
2540						2545					2550			
Glu	Asp	Leu	His	Gly	Val	Leu	Ser	Leu	Arg	Phe	Thr	Leu	Gln	Asn
2555						2560					2565			
Pro	Ala	Ala	Gly	Gln	Asp	Arg	Pro	Lys	Ser	Asp	Met	Pro	Ser	Gly
2570						2575					2580			
Leu	Ile	Pro	Gly	His	Lys	Gln	Ser	Ile	Val	Leu	Phe	Leu	Glu	Arg
2585						2590					2595			
Val	Tyr	Gly	Ile	Glu	Met	Gln	Glu	Leu	Phe	Phe	Thr	Leu	Leu	Glu
2600						2605					2610			
Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr	Met	Leu	Asp	Arg
2615						2620					2625			
Asn	Asp	Gly	Leu	Glu	Ser	Asp	Met	Ala	Leu	Ala	Met	Asn	Arg	Tyr
2630						2635					2640			
Ile	Gly	Lys	Ser	Val	Leu	Pro	Leu	Leu	Ile	Gly	His	Ser	Lys	Phe
2645						2650					2655			
Tyr	Ser	Glu	Ser	Gly	Asn	Tyr	Ala	Asn	Leu	Leu	Asp	Ala	Thr	Leu
2660						2665					2670			
His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met	Leu	Thr	Lys	Gly
2675						2680					2685			
Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu	Thr	Ser	Gln
2690						2695					2700			

Met	Gln	Pro	Ser	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys	Leu	Thr	Val
2705						2710					2715			
Asp	Val	Ser	Asn	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala	Leu	Arg	Leu
2720						2725					2730			
Leu	Thr	Leu	His	Tyr	Asp	Arg	Cys	Ala	Lys	Tyr	Tyr	Gly	Ser	Thr
2735						2740					2745			
Gly	Gly	Gln	Gly	Ile	Tyr	Gly	Ala	Ser	Ser	Asp	Glu	Glu	Lys	Arg
2750						2755					2760			
Leu	Thr	Met	Met	Leu	Phe	Ser	Asn	Ile	Phe	Asp	Ser	Leu	Ser	Lys
2765						2770					2775			
Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala	Leu	Pro	Cys	Leu
2780						2785					2790			
Ser	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr	Ser	Leu	Ser	Lys
2795						2800					2805			
Asn	His	Asp	Asp	Glu	Trp	Tyr	Gly	Ser	Lys	Gln	Asn	Ile	Gln	Gly
2810						2815					2820			
Pro	Ser	Asp	Gly	Pro	Tyr	Asn	Pro	Gln	Pro	Ile	Asn	Thr	Asn	Ser
2825						2830					2835			
Ile	Val	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Ile	Val	His	Lys	Phe	Ser
2840						2845					2850			
Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Asn	Arg	Lys	Leu	Glu	Asn	Gly
2855						2860					2865			
Trp	Val	Tyr	Gly	Glu	Gln	Phe	Asn	Asp	Val	Asn	Lys	Ser	His	Pro
2870						2875					2880			
Arg	Leu	Lys	Pro	Tyr	Met	Met	Leu	Ser	Glu	Tyr	Glu	Lys	Glu	Leu
2885						2890					2895			
Tyr	Lys	Glu	Pro	Val	Arg	Glu	Ser	Leu	Lys	Ala	Leu	Leu	Ala	Ile
2900						2905					2910			
Gly	Trp	Ser	Ile	Glu	His	Ser	Glu	Asn	Asp	Ala	Pro	Leu	Asn	Asn
2915						2920					2925			
Arg	Gly	Ser	Val	Arg	Arg	Gln	Ser	Lys	Ser	Asn	Glu	Asn	Val	Thr
2930						2935					2940			
Pro	Phe	Asp	Tyr	His	Pro	Asn	Pro	Ile	Asp	Met	Thr	Asn	Leu	Thr
2945						2950					2955			
Leu	Thr	Arg	Glu	Met	Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Glu	Asn
2960						2965					2970			
Ser	His	Asp	Ile	Trp	Ala	Lys	Lys	Lys	Lys	Glu	Glu	Val	Met	Leu
2975						2980					2985			
Cys	Gly	Gly	Gly	Ile	His	Asn	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu
2990						2995					3000			

Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe
3005						3010					3015			
Leu	Lys	Tyr	Leu	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Asn
3020						3025					3030			
Arg	Asn	Gly	Gly	Pro	Ser	Glu	Ala	Glu	Gln	Leu	Ala	Ala	Ala	Ser
3035						3040					3045			
Thr	Gly	Glu	Leu	Arg	Phe	Ser	His	Ser	Leu	Leu	Glu	Lys	Leu	Ile
3050						3055					3060			
His	Tyr	Ile	Asp	Arg	Ala	Ser	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro
3065						3070					3075			
Ser	Gly	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys	Ile	Cys	Thr	Arg
3080						3085					3090			
Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu	Pro	Leu	Val	Glu	Lys
3095						3100					3105			
Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile	Thr	Val	Ala	Thr	Ala
3110						3115					3120			
Ser	Ser	Val	Leu	Gly	Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu	Met	Val
3125						3130					3135			
Ala	Ser	Leu	Phe	Cys	Lys	Leu	Ala	Asn	Leu	Leu	Arg	Ser	Lys	Leu
3140						3145					3150			
Met	Ala	Phe	Gly	Ala	Asp	Val	Arg	Ile	Thr	Val	Arg	Cys	Leu	Gln
3155						3160					3165			
Val	Leu	Val	Lys	Ala	Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys
3170						3175					3180			
Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	His	Asn	Ile
3185						3190					3195			
Ala	Asp	Asp	Leu	Glu	His	Thr	Ile	Gln	Asn	Leu	His	Asp	Ser	Arg
3200						3205					3210			
Tyr	Cys	Tyr	Leu	Arg	Gly	Thr	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu
3215						3220					3225			
Phe	Tyr	Val	Asn	Asp	Val	Ile	Leu	Pro	Val	Leu	Ser	Ser	Leu	Phe
3230						3235					3240			
Asp	His	Leu	Ala	Ala	Tyr	Glu	Tyr	Gly	Asn	Glu	Leu	Leu	Leu	Asn
3245						3250					3255			
Glu	Ile	Gln	Val	Ala	Ala	Tyr	Lys	Met	Leu	Ser	Ser	Leu	Tyr	Thr
3260						3265					3270			
Leu	Gly	Thr	Asp	Thr	Ser	Leu	Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys
3275						3280					3285			
Val	Gln	Leu	Glu	Arg	His	Arg	Pro	Ala	Phe	Gly	Ser	Cys	Leu	Gly
3290						3295					3300			

Ala Phe Ser Ser Thr Phe Pro Val Ala Phe Leu Glu Pro His Leu 3305 3310 3315
Asn Lys His Asn Gln Tyr Ser Leu Leu Asn Arg Phe Ala Asp Ser 3320 3325 3330
Ser Leu Glu Ala Gln Asp Ile Met Ser Arg Thr Glu Gly Thr Met 3335 3340 3345
Pro Thr Leu Glu Thr Val Leu Asn Glu Val Asp Gln Phe Ile Glu 3350 3355 3360
Ser Glu Lys Thr Tyr Thr Asp Ala Pro His Ile Ile Asp Val Ile 3365 3370 3375
Leu Pro Leu Leu Cys Ser Tyr Leu Pro Tyr Trp Trp Ala Gln Gly 3380 3385 3390
Pro Asp Asn Val Ala Leu Thr Thr Gly Asn His Val Thr Met Val 3395 3400 3405
Thr Ser Glu His Met Asn Cys Leu Leu Lys Asn Val Leu Lys Leu 3410 3415 3420
Ile Lys Lys Asn Ile Gly Asn Asp Asn Ala Pro Trp Met Thr Gln 3425 3430 3435
Ile Ala Ala Tyr Thr Gln Gln Ile Ile Ile Asn Ser Ser Glu Glu 3440 3445 3450
Leu Leu Lys Asp Pro Phe Leu Pro Leu Ala Glu Arg Val Lys Lys 3455 3460 3465
Arg Thr Glu Thr Leu Tyr His Lys Glu Glu Ser Leu Arg Gly Phe 3470 3475 3480
Ile Lys Ser Ser Thr Asp Asp Thr Ser Gln Ile Glu Ala Gln Ile 3485 3490 3495
Gln Glu Asp Trp Gln Leu Val Val Arg Asp Ile Tyr Ala Phe Tyr 3500 3505 3510
Pro Leu Leu Ile Lys Tyr Val Asp Leu Gln Arg Asn His Trp Leu 3515 3520 3525
Arg Asn Ser Ile Ser Asn Ala Glu Asp Leu Tyr Asn His Val Ser 3530 3535 3540
Glu Ile Phe Asn Ile Trp Ser Lys Ser Gln Tyr Phe Leu Arg Glu 3545 3550 3555
Glu Gln Asn Phe Ile Ser Ala Asn Glu Ile Asp Asn Met Ile Leu 3560 3565 3570
Ile Met Pro Thr Ala Thr Arg Arg Ser Ala Val Ile Ser Glu Thr 3575 3580 3585
Ser Leu Gly Gly Ser Thr Gly Lys Lys Lys Lys Lys His Arg Asp 3590 3595 3600

Lys	Lys	Arg	Asp	Lys	Glu	Lys	Glu	Ile	Gln	Ala	Ser	Leu	Met	Val
3605						3610					3615			
Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly	Leu	Asn	Leu	Phe	Ala
3620						3625					3630			
Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys	Lys	Asp	Arg	Phe	Leu
3635						3640					3645			
Lys	Arg	Met	Pro	Asp	Tyr	Asp	Val	Ile	Arg	Phe	Val	Lys	Ile	Gln
3650						3655					3660			
Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ala	Asp	Glu	Met	Ser	Trp
3665						3670					3675			
Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Ser	Lys	Lys	Gly	Thr	Pro
3680						3685					3690			
Glu	Ile	Lys	Pro	Gln	Gln	Val	Asp	Glu	Val	Ala	Asp	Arg	Ile	Val
3695						3700					3705			
Ala	Met	Ala	Lys	Val	Leu	Tyr	Gly	Leu	His	Met	Ile	Asp	His	Pro
3710						3715					3720			
Gln	Leu	Gln	Ser	Lys	Ala	Ile	Tyr	Arg	Ser	Val	Val	Ser	Thr	Gln
3725						3730					3735			
Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Leu	Ser	Leu	His
3740						3745					3750			
Ala	Leu	Thr	Arg	His	Arg	Ala	Val	Asn	Ile	Phe	Val	Arg	Ser	Phe
3755						3760					3765			
Tyr	Glu	Leu	Trp	Leu	Gln	Asp	Glu	Asn	Ile	Gly	Gln	Glu	Val	Val
3770						3775					3780			
Ile	Glu	Asp	Leu	Thr	Gln	Ser	Phe	Glu	Glu	Ala	Glu	Leu	Lys	Lys
3785						3790					3795			
Arg	Asp	Lys	Glu	Glu	Glu	Glu	Gly	Met	Ala	Asp	Pro	Leu	Asn	Gln
3800						3805					3810			
Met	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu	Arg	Ser	Gly
3815						3820					3825			
Ala	Leu	Gln	Glu	Asp	Pro	Leu	Tyr	Met	Ser	Tyr	Ala	Asp	Ile	Leu
3830						3835					3840			
Ala	Lys	Ser	Cys	Gly	Glu	Glu	Glu	Glu	Glu	Gly	Asn	Asn	Glu	Glu
3845						3850					3855			
Glu	Gly	Ser	Thr	Gly	Asn	Gly	Glu	Glu	Glu	Gly	Gly	Ala	Ser	Ile
3860						3865					3870			
His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln	Ala
3875						3880					3885			
Arg	Leu	Ala	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His	Ile
3890						3895					3900			

Ser	Ala	Cys	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Lys	Thr	Leu
3905						3910					3915			
Gln	Leu	Gly	Ile	Ala	Val	Leu	Arg	Gly	Gly	Asn	Leu	Glu	Ile	Gln
3920						3925					3930			
Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly	Phe
3935						3940					3945			
Phe	Thr	Ser	Val	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu	Asp
3950						3955					3960			
Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly	Val
3965						3970					3975			
Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala	Glu
3980						3985					3990			
Phe	Thr	Cys	Thr	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu	Gly
3995						4000					4005			
His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly	Asn
4010						4015					4020			
Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu	Leu
4025						4030					4035			
Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser	Ser
4040						4045					4050			
Lys	Glu	Leu	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys	Ala
4055						4060					4065			
Ile	Gly	Val	Ala	Ser	Leu	Val	Phe	Asn	Thr	Leu	Ser	Glu	Val	Ile
4070						4075					4080			
Gln	Gly	Pro	Cys	Thr	Gln	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser	Arg
4085						4090					4095			
Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser	His	Met
4100						4105					4110			
Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu	Lys
4115						4120					4125			
Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met	Leu	Ser
4130						4135					4140			
Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln	Met
4145						4150					4155			
Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile	Leu
4160						4165					4170			
Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Lys	Asp	Leu	Thr	Ser	Ser
4175						4180					4185			
Thr	Ser	Phe	Thr	Glu	Ile	Asp	Pro	Asn	Asn	Asp	Gly	Trp	Val	His
4190						4195					4200			

Pro	Lys	Asp	Phe	Lys	Glu	Lys	Met	Glu	Gln	Gln	Lys	Ser	Tyr	Thr
4205						4210					4215			
Ala	Glu	Glu	Ile	Glu	Phe	Met	Leu	Gln	Cys	Cys	Glu	Ser	Asn	His
4220						4225					4230			
Asp	Gly	Lys	Ile	Asp	Tyr	Ile	Gly	Phe	Thr	Asp	Gln	Phe	His	Glu
4235						4240					4245			
Pro	Ser	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu	Thr	Asn
4250						4255					4260			
Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Thr	Arg	Phe	Leu
4265						4270					4275			
Glu	Thr	Ala	Ser	Ser	Val	Leu	Asn	Tyr	Phe	Gln	Pro	Phe	Leu	Gly
4280						4285					4290			
Arg	Ile	Glu	Ile	Leu	Gly	Gly	Ser	Lys	Arg	Ile	Glu	Arg	Val	Tyr
4295						4300					4305			
Phe	Glu	Ile	Lys	Glu	Ser	Asn	Ile	Glu	Gln	Trp	Leu	Lys	Pro	Gln
4310						4315					4320			
Ile	Arg	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr	Ser	Ile	Val	Thr	Glu
4325						4330					4335			
Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe	Val	Asn	Phe	Cys	Glu
4340						4345					4350			
Asp	Ala	Ile	Phe	Glu	Met	Gln	His	Ala	Ser	Gly	Leu	Met	Ala	Val
4355						4360					4365			
Asp	Asp	Gly	Ser	Gly	Ile	Gly	Gly	Gly	Lys	Ser	Arg	Lys	Thr	Ser
4370						4375					4380			
Tyr	Thr	Tyr	Leu	Ala	Asp	Asp	Glu	Glu	Asn	Lys	Thr	Ala	Lys	Asp
4385						4390					4395			
Pro	Ile	Arg	Arg	Gly	Ile	Gln	Ala	Ile	Lys	Tyr	Gly	Phe	His	Leu
4400						4405					4410			
Leu	Phe	Phe	Val	Leu	Ser	Pro	Thr	Asn	Ile	Lys	Asn	Lys	Ile	Asn
4415						4420					4425			
Glu	Ile	Gln	Gln	Met	Ser	Val	Ile	Glu	Leu	Ile	Thr	Ser	Phe	Phe
4430						4435					4440			
Lys	Leu	Trp	Phe	Tyr	Leu	Ile	Phe	Tyr	Thr	Gly	Tyr	Ser	Gly	Val
4445						4450					4455			
Tyr	Val	Leu	Arg	Tyr	Ile	Ser	Arg	Ile	Leu	Met	Gln	Leu	Met	Ser
4460						4465					4470			
Gly	Thr	Gln	Ser	Glu	Glu	Thr	Thr	Val	Glu	Val	Val	Glu	Glu	Lys
4475						4480					4485			
Ser	Gly	Ser	Phe	Arg	Met	Leu	Pro	Ala	Leu	Pro	Ser	Ser	Gly	Ile
4490						4495					4500			

Asp	Glu	Thr	Pro	Ser	Thr	Leu	Thr	Asp	Ser	Asn	Asn	Met	Arg	Lys
4505						4510					4515			
Asn	Ser	Gly	Ser	Leu	Asp	Ser	Lys	His	Leu	Lys	Ser	Thr	Thr	Gly
4520						4525					4530			
Gly	Asp	Asp	Lys	Asp	Glu	Thr	Ser	Ala	Glu	Asn	His	Glu	Lys	Glu
4535						4540					4545			
Asp	Gly	Val	Asp	Gly	Ser	Glu	Leu	Gln	Ala	Ser	Phe	Val	Asp	Leu
4550						4555					4560			
Leu	Val	Gly	Glu	Ser	Ala	Arg	Lys	Asp	Ser	Ile	Ala	Gly	Pro	Glu
4565						4570					4575			
Val	Leu	Ala	Gln	Gln	Gln	Ala	Val	Met	Ala	Ala	Val	Glu	Ala	Glu
4580						4585					4590			
Ile	Lys	Gln	Lys	Asn	Ser	Val	Glu	Asn	Pro	Ser	Ala	Phe	Ser	Thr
4595						4600					4605			
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ttt tta gac cta atg gat cat aca ata agt ttt tcg ttg aat gga				3519
Phe Leu Asp Leu Met Asp His Thr Ile Ser Phe Ser Leu Asn Gly				
	1160	1165	1170	
gaa tta cta atg gat aca ttg gga gga gaa act acg ttt tct gaa				3564
Glu Leu Leu Met Asp Thr Leu Gly Gly Glu Thr Thr Phe Ser Glu				
	1175	1180	1185	
gtt caa gga gaa gga ttt gta cct gca ttt act ctg gga cta gga				3609
Val Gln Gly Glu Gly Phe Val Pro Ala Phe Thr Leu Gly Leu Gly				

1190	caa aaa gca aaa tta act ttt	1195	ggg caa gac gta aac tca ttg aaa	1200	3654
Gln Lys Ala Lys Leu Thr Phe	Gly Gln Asp Val Asn Ser Leu Lys				
1205	tac ttc acg act tgt ggt ctt	1210	caa gaa gga tat gaa cca ttt tgc	1215	3699
Tyr Phe Thr Thr Cys Gly Leu	Gln Glu Gly Tyr Glu Pro Phe Cys				
1220	gta aac atg aag aga cca gta	1225	aca tat tgg tat act aag gat caa	1230	3744
Val Asn Met Lys Arg Pro Val	Thr Tyr Trp Tyr Thr Lys Asp Gln				
1235	cca ata ttt gaa aat act gat	1240	gac ttt tcg tct gta att gat gtt	1245	3789
Pro Ile Phe Glu Asn Thr Asp	Asp Phe Ser Ser Val Ile Asp Val				
1250	aca aga att cca gct ggt tca	1255	gat aca cca ccg tgt cta aaa ata	1260	3834
Thr Arg Ile Pro Ala Gly Ser	Asp Thr Pro Pro Cys Leu Lys Ile				
1265	agt cat aat aca ttt gaa acc	1270	atg gaa aga gct aat tgg gaa ttt	1275	3879
Ser His Asn Thr Phe Glu Thr	Met Glu Arg Ala Asn Trp Glu Phe				
1280	tta cgg cta tct ttg cct gtc	1285	ata tgt cta cca aat ttt att gat	1290	3924
Leu Arg Leu Ser Leu Pro Val	Ile Cys Leu Pro Asn Phe Ile Asp				
1295	gaa caa gaa aaa caa agg aga	1300	tgg caa gaa atc aga att agg cag	1305	3969
Glu Gln Glu Lys Gln Arg Arg	Trp Gln Glu Ile Arg Ile Arg Gln				
1310	cac agg tta ttg tca caa tct	1315	gag cat gct act cct gct cat att	1320	4014
His Arg Leu Leu Ser Gln Ser	Glu His Ala Thr Pro Ala His Ile				
1325	gaa caa ata atg aaa tca gga	1330	ttt tca atg agt gat ata aaa ggt	1335	4059
Glu Gln Ile Met Lys Ser Gly	Phe Ser Met Ser Asp Ile Lys Gly				
1340	ctt cat cga ggt tat tcg gat	1345	gat cct gta gaa aac gat gaa atg	1350	4104
Leu His Arg Gly Tyr Ser Asp	Asp Pro Val Glu Asn Asp Glu Met				
1355	atg cca aac act gca cct tta	1360	cca cca aga gga aaa aat caa cca	1365	4149
Met Pro Asn Thr Ala Pro Leu	Pro Pro Arg Gly Lys Asn Gln Pro				
1370	cca cca ccc aga cca cca cga	1375	aaa ggg tct tta tct aga cac gat	1380	4194
Pro Pro Pro Arg Pro Pro Arg	Lys Gly Ser Leu Ser Arg His Asp				
1385	gac tta acg atc gaa aat gac	1390	gga aag ttg aat cgt tca tct agt	1395	4239
Asp Leu Thr Ile Glu Asn Asp	Gly Lys Leu Asn Arg Ser Ser Ser				
1400	gaa ttg aat ttt aac ata tat	1405	aat cag caa aac ggt aat ggc cag	1410	4284
Glu Leu Asn Phe Asn Ile Tyr	Asn Gln Gln Asn Gly Asn Gly Gln				
1415	gac ata aac aaa gat gac aag	1420	aaa aaa aga gga cgt tct cca ttt	1425	4329
Asp Ile Asn Lys Asp Asp Lys	Lys Lys Arg Gly Arg Ser Pro Phe				
1430	cga ttt ttc tcg aga aaa aaa	1435	gaa ggg cct tcg gat aat cct aaa	1440	4374
Arg Phe Phe Ser Arg Lys Lys	Glu Gly Pro Ser Asp Asn Pro Lys				
1445	aga gca aaa act ccg gat cca	1450	gct aga aat gtg gtt aga tca cgt	1455	4419
Arg Ala Lys Thr Pro Asp Pro	Ala Arg Asn Val Val Arg Ser Arg				
1460	aat gct gct cac aga cct aat	1465	aca tta aat gaa aga ata act ccc	1470	4464
Asn Ala Ala His Arg Pro Asn	Thr Leu Asn Glu Arg Ile Thr Pro				
1475	caa ata aga gtt tca caa atg	1480	gac tta aaa ttg gtt cca cca gct	1485	4509
Gln Ile Arg Val Ser Gln Met	Asp Leu Lys Leu Val Pro Pro Ala				

1490	att cct gat aga cca gga ggt	1495	cca aaa gca atg tca	1500	ttt aca cct	4554
Ile Pro Asp Arg Pro Gly	Gly Pro Lys Ala Met Ser	Phe Thr Pro				
1505	tca tca gca ggg att gaa ttc	1510	gtg gga aat gaa ata	1515	ttt gat tta	4599
Ser Ser Ala Gly Ile Glu	Phe Val Gly Asn Glu Ile	Phe Asp Leu				
1520	gaa tgt tta aaa tta ata aac	1525	gag tat tac tat ggt	1530	gta aga ata	4644
Glu Cys Leu Lys Leu Ile	Asn Glu Tyr Tyr Tyr Gly	Val Arg Ile				
1535	ttt ccc ggc caa gac cct aca	1540	cac gtt tac gtg gga	1545	tgg gtt act	4689
Phe Pro Gly Gln Asp Pro	Thr His Val Tyr Val Gly	Trp Val Thr				
1550	act caa ttt cat ctc cat agt	1555	aaa gat ttc agt caa	1560	aat cat gtt	4734
Thr Gln Phe His Leu His	Ser Lys Asp Phe Ser Gln	Asn His Val				
1565	cga aaa agt act gtt aca att	1570	gtc gat gaa cat aat	1575	aga att tta	4779
Arg Lys Ser Thr Val Thr	Ile Val Asp Glu His Asn	Arg Ile Leu				
1580	gaa agt att gat cga caa agc	1585	tgt tac atg gtt cga	1590	tcc gat gag	4824
Glu Ser Ile Asp Arg Gln	Ser Cys Tyr Met Val Arg	Ser Asp Glu				
1595	tta tac aac gaa gta aca aat	1600	gat tcg tcg ggg aag	1605	gga gca tct	4869
Leu Tyr Asn Glu Val Thr	Asn Asp Ser Ser Gly Lys	Gly Ala Ser				
1610	caa gga atg gct ata ggt tgt	1615	ttt att gat ata gct	1620	act gga gtg	4914
Gln Gly Met Ala Ile Gly	Cys Phe Ile Asp Ile Ala	Thr Gly Val				
1625	atg tca ttt aca tgt gaa gga	1630	aaa gaa act agt ttt	1635	aaa ttt aaa	4959
Met Ser Phe Thr Cys Glu	Gly Lys Glu Thr Ser Phe	Lys Phe Lys				
1640	atg gaa cca gat att aaa tta	1645	ttc cct gca ata ttt	1650	gtg gaa gct	5004
Met Glu Pro Asp Ile Lys	Leu Phe Pro Ala Ile Phe	Val Glu Ala				
1655	agt agc aaa gag ata tta caa	1660	att gaa ttg ggt aga	1665	act tct act	5049
Ser Ser Lys Glu Ile Leu	Gln Ile Glu Leu Gly Arg	Thr Ser Thr				
1670	aca ctt cca tta tct gca gct	1675	gtt tta caa aat tca	1680	gaa cgc cat	5094
Thr Leu Pro Leu Ser Ala	Ala Val Leu Gln Asn Ser	Glu Arg His				
1685	gtt ctt cct cag ttt cca ccg	1690	aga tta aaa gtt caa	1695	tgt tta aga	5139
Val Leu Pro Gln Phe Pro	Pro Arg Leu Lys Val Gln	Cys Leu Arg				
1700	cca cat caa tgg gct aga gtt	1705	cca aat gat tct tta	1710	cac att cat	5184
Pro His Gln Trp Ala Arg	Val Pro Asn Asp Ser Leu	His Ile His				
1715	act ctg aaa tta tct gac att	1720	aga ggg tgg agt ata	1725	ctt tgt gaa	5229
Thr Leu Lys Leu Ser Asp	Ile Arg Gly Trp Ser Ile	Leu Cys Glu				
1730	gac cct gtg tcg atg att gca	1735	tta cac att ccc gaa	1740	gaa gat cga	5274
Asp Pro Val Ser Met Ile	Ala Leu His Ile Pro Glu	Glu Asp Arg				
1745	tgt ata gat att tta gag ttg	1750	att gaa atg gag aaa	1755	tta cta tct	5319
Cys Ile Asp Ile Leu Glu	Leu Ile Glu Met Glu Lys	Leu Leu Ser				
1760	ttc cat gct cac acg ttg act	1765	tta tat gca gct gtg	1770	tgc tat caa	5364
Phe His Ala His Thr Leu	Thr Leu Tyr Ala Ala Val	Cys Tyr Gln				
1775	gct aac tac cga gct gct cac	1780	ata tta tgc act cat	1785	gta aat caa	5409
Ala Asn Tyr Arg Ala Ala	His Ile Leu Cys Thr His	Val Asn Gln				

1790	aaa	caa	ttg	tta	tat	gct	ata	tgt	tca	gaa	tat	atg	tct	ggg	cca	5454
	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Cys	Ser	Glu	Tyr	Met	Ser	Gly	Pro	
1805	ttg	cgt	caa	gga	ttt	tat	gat	ctc	tta	ata	gct	tta	cat	tta	gag	5499
	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile	Ala	Leu	His	Leu	Glu	
1820	tcc	cat	gca	aca	aca	atg	gag	ggt	tgt	aaa	aat	gaa	tac	att	ata	5544
	Ser	His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys	Asn	Glu	Tyr	Ile	Ile	
1835	cca	ttg	ggg	cat	gaa	cta	act	gct	tta	tac	gat	gat	cca	caa	atg	5589
	Pro	Leu	Gly	His	Glu	Leu	Thr	Ala	Leu	Tyr	Asp	Asp	Pro	Gln	Met	
1850	ggg	cat	agc	tta	cgg	tcg	tta	caa	act	gaa	tct	ggt	cga	cct	caa	5634
	Gly	His	Ser	Leu	Arg	Ser	Leu	Gln	Thr	Glu	Ser	Val	Arg	Pro	Gln	
1865	atg	aaa	atg	act	gaa	att	tca	gac	ggt	att	gac	aat	ggt	cga	aac	5679
	Met	Lys	Met	Thr	Glu	Ile	Ser	Asp	Val	Ile	Asp	Asn	Val	Arg	Asn	
1880	tta	tac	agt	cct	tat	ttc	cca	ttg	caa	gta	ggt	aga	gaa	tat	gta	5724
	Leu	Tyr	Ser	Pro	Tyr	Phe	Pro	Leu	Gln	Val	Val	Arg	Glu	Tyr	Val	
1895	atg	gca	gcc	cta	gaa	gaa	gca	gtg	tta	ggt	aat	cag	ggt	cat	aat	5769
	Met	Ala	Ala	Leu	Glu	Glu	Ala	Val	Leu	Val	Asn	Gln	Val	His	Asn	
1910	aga	gat	cct	att	ggg	gga	tct	aat	gaa	aac	ttg	ttt	tta	cca	tta	5814
	Arg	Asp	Pro	Ile	Gly	Gly	Ser	Asn	Glu	Asn	Leu	Phe	Leu	Pro	Leu	
1925	tta	aaa	tta	gtg	gat	cgt	ctt	tta	ctt	gtc	ggg	atg	tta	cgt	gat	5859
	Leu	Lys	Leu	Val	Asp	Arg	Leu	Leu	Leu	Val	Gly	Met	Leu	Arg	Asp	
1940	gaa	gat	gta	gaa	aaa	tta	ttg	ata	atg	att	aat	cca	gaa	act	tgg	5904
	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile	Met	Ile	Asn	Pro	Glu	Thr	Trp	
1955	gat	cct	gaa	ttt	caa	aaa	gat	ggg	ccc	gat	gaa	cat	aga	aaa	ggg	5949
	Asp	Pro	Glu	Phe	Gln	Lys	Asp	Gly	Pro	Asp	Glu	His	Arg	Lys	Gly	
1970	tta	tta	cac	atg	aaa	atg	gct	gag	ggg	gca	aaa	ctt	caa	atg	tgt	5994
	Leu	Leu	His	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys	Leu	Gln	Met	Cys	
1985	tat	tta	tta	cat	cat	tta	tgt	gat	att	caa	ctg	agg	cat	agg	ggt	6039
	Tyr	Leu	Leu	His	His	Leu	Cys	Asp	Ile	Gln	Leu	Arg	His	Arg	Val	
2000	gaa	tcg	ata	atc	tct	ttt	agt	tat	caa	ttt	gtc	aat	gat	ata	caa	6084
	Glu	Ser	Ile	Ile	Ser	Phe	Ser	Tyr	Gln	Phe	Val	Asn	Asp	Ile	Gln	
2015	ata	gat	caa	tta	aga	aga	tat	aat	gaa	ata	aaa	caa	tca	gat	tta	6129
	Ile	Asp	Gln	Leu	Arg	Arg	Tyr	Asn	Glu	Ile	Lys	Gln	Ser	Asp	Leu	
2030	cca	tct	gct	ggt	gct	gca	aaa	aag	acg	aga	gag	ttc	cga	tgt	ccg	6174
	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Arg	Glu	Phe	Arg	Cys	Pro	
2045	cct	cgt	gaa	caa	atg	aat	gca	ata	cta	ggc	ttt	aaa	aat	ttg	gat	6219
	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile	Leu	Gly	Phe	Lys	Asn	Leu	Asp	
2060	agt	gat	gat	aaa	gaa	aat	tgt	ttg	ata	ggg	gat	gaa	ctt	cgt	gaa	6264
	Ser	Asp	Asp	Lys	Glu	Asn	Cys	Leu	Ile	Gly	Asp	Glu	Leu	Arg	Glu	
2075	aga	atg	aac	gaa	ttt	aat	gag	aaa	ctc	atg	aaa	caa	ata	tta	tta	6309
	Arg	Met	Asn	Glu	Phe	Asn	Glu	Lys	Leu	Met	Lys	Gln	Ile	Leu	Leu	

2090	2095	2100	
gta gct ctt caa gaa tca gaa gat gac aaa tta gat ttg aat aac			6354
Val Ala Leu Gln Glu Ser Glu Asp Asp Lys Leu Asp Leu Asn Asn			
2105	2110	2115	
ata aac aga gaa ggt aaa ata aaa caa ttt tat aac ttt ata aat			6399
Ile Asn Arg Glu Gly Lys Ile Lys Gln Phe Tyr Asn Phe Ile Asn			
2120	2125	2130	
gca gtg aaa gat gaa gca aat gaa aat ggt ctg aac gaa cat gaa			6444
Ala Val Lys Asp Glu Ala Asn Glu Asn Gly Leu Asn Glu His Glu			
2135	2140	2145	
aaa aaa ata cca gaa gaa ata ttt aga aaa gtt tta ata acc act			6489
Lys Lys Ile Pro Glu Glu Ile Phe Arg Lys Val Leu Ile Thr Thr			
2150	2155	2160	
att gta tca tgg gct gaa gaa act caa att gaa aca cca aaa tta			6534
Ile Val Ser Trp Ala Glu Glu Thr Gln Ile Glu Thr Pro Lys Leu			
2165	2170	2175	
gtt aga gaa atg ttc agt tta ttg gtt agg cag tat gat agt gta			6579
Val Arg Glu Met Phe Ser Leu Leu Val Arg Gln Tyr Asp Ser Val			
2180	2185	2190	
gga gaa ttg att cgt gca tta gag aaa aca tat gta att aat ttt			6624
Gly Glu Leu Ile Arg Ala Leu Glu Lys Thr Tyr Val Ile Asn Phe			
2195	2200	2205	
aaa aca aaa gaa gat gtt gct caa atg tgg gtt gga ctt agt caa			6669
Lys Thr Lys Glu Asp Val Ala Gln Met Trp Val Gly Leu Ser Gln			
2210	2215	2220	
atc cgt tct ttg ttg cca gtg caa atg tca caa gaa gaa gaa gaa			6714
Ile Arg Ser Leu Leu Pro Val Gln Met Ser Gln Glu Glu Glu Glu			
2225	2230	2235	
ttg atg aga gaa cga tta tgg aaa ctg gta aat aac cac aca ttt			6759
Leu Met Arg Glu Arg Leu Trp Lys Leu Val Asn Asn His Thr Phe			
2240	2245	2250	
ttc caa cat cct gat tta ata aga gtt ctt cgg atg cac gaa aat			6804
Phe Gln His Pro Asp Leu Ile Arg Val Leu Arg Met His Glu Asn			
2255	2260	2265	
gtt atg gct gtc atg atg aat aca ctg gga aga aga gct caa gcc			6849
Val Met Ala Val Met Met Asn Thr Leu Gly Arg Arg Ala Gln Ala			
2270	2275	2280	
caa tcg caa cca ggt gga act act gta acg gga caa gat gga gaa			6894
Gln Ser Gln Pro Gly Gly Thr Thr Val Thr Gly Gln Asp Gly Glu			
2285	2290	2295	
atc gtt ccg aaa gaa aag gat aca tca cat gaa atg gtc gta gct			6939
Ile Val Pro Lys Glu Lys Asp Thr Ser His Glu Met Val Val Ala			
2300	2305	2310	
tgt tgt cgg ttc tta tgt tat ttt tgc cgt aca tcc agg caa aac			6984
Cys Cys Arg Phe Leu Cys Tyr Phe Cys Arg Thr Ser Arg Gln Asn			
2315	2320	2325	
caa aaa gcc atg ttt gac cat ttt tca ttt tta tta gaa aat agt			7029
Gln Lys Ala Met Phe Asp His Phe Ser Phe Leu Leu Glu Asn Ser			
2330	2335	2340	
aac ata ttg ctc tct aga ccg tca cta aga gga agt aca cca ctc			7074
Asn Ile Leu Leu Ser Arg Pro Ser Leu Arg Gly Ser Thr Pro Leu			
2345	2350	2355	
gat gtt gct tat tcg tca ctc atg gaa aat act gaa ctt gca tta			7119
Asp Val Ala Tyr Ser Ser Leu Met Glu Asn Thr Glu Leu Ala Leu			
2360	2365	2370	
gcg ttg aga gaa cat tat ttg gaa aag atc gcg ata tat ttg tct			7164
Ala Leu Arg Glu His Tyr Leu Glu Lys Ile Ala Ile Tyr Leu Ser			
2375	2380	2385	
cga tgt ggt ttg caa tct aat tct gaa ttg att gag aaa gga tat			7209
Arg Cys Gly Leu Gln Ser Asn Ser Glu Leu Ile Glu Lys Gly Tyr			

2390	cct gat tta gga tgg gac	2395	cca gtg gaa gga gaa aga	2400	tat tta gac	7254
Pro Asp	Leu Gly Trp Asp	Pro	Val Glu Gly Glu Arg	Tyr	Leu Asp	
2405	ttt cta cga ttt tgt gtt	2410	gtg gtc aac ggt gaa agt	2415	gta gag gaa	7299
Phe Leu	Arg Phe Cys Val	Trp	Val Asn Gly Glu Ser	Val	Glu Glu	
2420	aat gca aat tta gtt att	2425	ttg ctt att cgc agg	2430	cct gag tgt	7344
Asn Ala	Asn Leu Val Ile	Arg	Leu Leu Ile Arg	Arg	Pro Glu Cys	
2435	ttg ggt cct gca tta aga	2440	gaa gga gaa gga ctt	2445	tta cgt gcc	7389
Leu Gly	Pro Ala Leu Arg	Gly	Glu Gly Glu Gly Leu	Leu	Leu Arg Ala	
2450	ata att gat gca aat aaa	2455	tct gaa aga ata gca	2460	gaa cga aga	7434
Ile Ile	Asp Ala Asn Lys	Met	Ser Glu Arg Ile Ala	Ala	Glu Arg Arg	
2465	aag ttc tta gaa gaa tcg	2470	aac caa gaa aat att	2475	caa tta gat	7479
Lys Phe	Leu Glu Glu Ser	Gly	Asn Gln Glu Asn Ile	Gln	Leu Asp	
2480	cat ccg ctt ccg gaa tcc	2485	gac gat gaa gat tat	2490	att gat acg	7524
His Pro	Leu Pro Glu Ser	Glu	Asp Asp Glu Asp Tyr	Ile	Asp Thr	
2495	gga gct gcc att tta aat	2500	tac tgt act ctt gtt	2505	gac tta cta	7569
Gly Ala	Ala Ile Leu Asn	Phe	Tyr Cys Thr Leu Val	Asp	Leu Leu	
2510	gga cga tgt gca ccg gac	2515	tca gta att gca ctg	2520	ggg aag aat	7614
Gly Arg	Cys Ala Pro Asp	Ser	Ser Val Ile Ala Leu	Gly	Lys Asn	
2525	gaa tct tta cgt gca aga	2530	gcc att ctg aga tca	2535	gta cca ctt	7659
Glu Ser	Leu Arg Ala Arg	Ala	Ile Leu Arg Ser Leu	Val	Pro Leu	
2540	gaa gat tta cac ggt gtt	2545	agt ctt aga ttt aca	2550	tta cag aat	7704
Glu Asp	Leu His Gly Val	Leu	Ser Leu Arg Phe Thr	Leu	Gln Asn	
2555	cca gct gct ggt caa gat	2560	cca aag agt gat atg	2565	ccc tca ggg	7749
Pro Ala	Ala Gly Gln Asp	Arg	Pro Lys Ser Asp Met	Pro	Ser Gly	
2570	tta ata cca gga cac aaa	2575	agt gtt gtt ctc ttt	2580	tta gaa cga	7794
Leu Ile	Pro Gly His Lys	Gln	Ser Val Val Leu Phe	Leu	Glu Arg	
2585	gtg tat ggt atc gaa atg	2590	gag tta ttt ttc aca	2595	tta cta gag	7839
Val Tyr	Gly Ile Glu Met	Gln	Glu Leu Phe Phe Thr	Leu	Leu Glu	
2600	gaa gca ttt tta cca gat	2605	ctg aca gca aca atg	2610	ctt gat aga	7884
Glu Ala	Phe Leu Pro Asp	Leu	Arg Thr Ala Thr Met	Leu	Asp Arg	
2615	aat gat gga ctt gaa tca	2620	atg gca ttg gca atg	2625	aat aga tat	7929
Asn Asp	Gly Leu Glu Ser	Asp	Met Ala Leu Ala Met	Asn	Arg Tyr	
2630	att gga aat tca gta tta	2635	tta ctc att ggt cat	2640	tca aaa ttc	7974
Ile Gly	Asn Ser Val Leu	Pro	Leu Leu Ile Gly His	Ser	Lys Phe	
2645	tat agc gag tcc gat aac	2650	gct aat ttg tta gat	2655	gca acg tta	8019
Tyr Ser	Glu Ser Asp Asn	Tyr	Ala Asn Leu Leu Asp	Ala	Thr Leu	
2660	cac act gtg tat aga tta	2665	aaa aat aga atg tta	2670	aca aaa ggg	8064
His Thr	Val Tyr Arg Leu	Ser	Lys Asn Arg Met Leu	Thr	Lys Gly	
2675	cag cga gaa gct gtt tca	2680	ttt tta gta gca tta	2685	act agt caa	8109
Gln Arg	Glu Ala Val Ser	Asp	Phe Leu Val Ala Leu	Thr	Ser Gln	

2690	atg caa cca agt atg tta tta	2695	aaa cta ctg aga aaa	2700	ctt acg gtt	8154
Met Gln Pro Ser Met Leu Leu	Lys Leu Leu Arg Lys	Leu Thr Val				
2705	gat gtt tca aat tta tca gag	2710	tat act act gta gcg	2715	ctt aga ttg	8199
Asp Val Ser Asn Leu Ser Glu	Tyr Thr Thr Val Ala	Leu Arg Leu				
2720	tta act ttg cat tac gat cga	2725	tgt gca aaa tac tat	2730	gga tca aca	8244
Leu Thr Leu His Tyr Asp Arg	Cys Ala Lys Tyr Tyr	Gly Ser Thr				
2735	ggg ggt caa gga att tac gga	2740	gct tct agc gac gaa	2745	gaa aaa aga	8289
Gly Gly Gln Gly Ile Tyr Gly	Ala Ser Ser Asp Glu	Glu Lys Arg				
2750	tta acc atg atg tta ttc agt	2755	aac ata ttt gat tcc	2760	ttg tca aaa	8334
Leu Thr Met Met Leu Phe Ser	Asn Ile Phe Asp Ser	Leu Ser Lys				
2765	atg gac tac gat cca gaa ctt	2770	ttc gga aaa gca tta	2775	cct tgc cta	8379
Met Asp Tyr Asp Pro Glu Leu	Phe Gly Lys Ala Leu	Pro Cys Leu				
2780	tca gca att gga tgt gct ttg	2785	cct cca gat tat tca	2790	ctg tca aaa	8424
Ser Ala Ile Gly Cys Ala Leu	Pro Pro Asp Tyr Ser	Leu Ser Lys				
2795	aat tat gat gac gag tgg tat	2800	ggg tct aaa cag aat	2805	att caa ggc	8469
Asn Tyr Asp Asp Glu Trp Tyr	Gly Ser Lys Gln Asn	Ile Gln Gly				
2810	cct tct gat gga cct tac aat	2815	cca caa cca ata aac	2820	acg aat agc	8514
Pro Ser Asp Gly Pro Tyr Asn	Pro Gln Pro Ile Asn	Thr Asn Ser				
2825	att gtt ctt gat aat gac ttg	2830	aac tct att gta cat	2835	aag ttc tca	8559
Ile Val Leu Asp Asn Asp Leu	Asn Ser Ile Val His	Lys Phe Ser				
2840	gaa cat tat cat gat gca tgg	2845	gca aat cgt aaa ttg	2850	gaa aat ggg	8604
Glu His Tyr His Asp Ala Trp	Ala Asn Arg Lys Leu	Glu Asn Gly				
2855	tgg gtt tat gga gaa caa ttt	2860	aat gat gtt aat aaa	2865	agt cat cct	8649
Trp Val Tyr Gly Glu Gln Phe	Asn Asp Val Asn Lys	Ser His Pro				
2870	cgt cta aaa cca tac atg atg	2875	ttg agt gaa tac gaa	2880	aaa gaa cta	8694
Arg Leu Lys Pro Tyr Met Met	Leu Ser Glu Tyr Glu	Lys Glu Leu				
2885	tac aaa gaa cct gtg aga gag	2890	tcc ctt aaa gca tta	2895	ctt gca ata	8739
Tyr Lys Glu Pro Val Arg Glu	Ser Leu Lys Ala Leu	Leu Ala Ile				
2900	gga tgg agt att gaa cat tca	2905	gag aac gat gca cca	2910	ttg aat aat	8784
Gly Trp Ser Ile Glu His Ser	Glu Asn Asp Ala Pro	Leu Asn Asn				
2915	aga gga tct gtt cga cgt caa	2920	tca aag tct aat gag	2925	aat gta acg	8829
Arg Gly Ser Val Arg Arg Gln	Ser Lys Ser Asn Glu	Asn Val Thr				
2930	ccg ttt gac tac cat ccg aat	2935	ccc ata gat atg act	2940	aac ctt aca	8874
Pro Phe Asp Tyr His Pro Asn	Pro Ile Asp Met Thr	Asn Leu Thr				
2945	ctc act aga gaa atg caa aat	2950	atg gcg gaa aga tta	2955	gca gaa aac	8919
Leu Thr Arg Glu Met Gln Asn	Met Ala Glu Arg Leu	Ala Glu Asn				
2960	tcc cat gac att tgg gct aag	2965	aag aaa aaa gaa gaa	2970	gtt atg ttg	8964
Ser His Asp Ile Trp Ala Lys	Lys Lys Lys Glu Glu	Val Met Leu				
2975	tgt gga gga ggt att cat aat	2980	caa ttg gtt ccg tat	2985	gat ttg ctg	9009
Cys Gly Gly Gly Ile His Asn	Gln Leu Val Pro Tyr	Asp Leu Leu				

2990	2995	3000	
acc gat aaa gaa aag aaa aaa gat cga gaa cgc tca caa gag ttc			9054
Thr Asp Lys Glu Lys Lys Lys Asp Arg Glu Arg Ser Gln Glu Phe			
3005	3010	3015	
ctt aaa tat ttg cag tat caa ggt tat aaa tta cac aga ccg aat			9099
Leu Lys Tyr Leu Gln Tyr Gln Gly Tyr Lys Leu His Arg Pro Asn			
3020	3025	3030	
cgt aat gga gga cct tca gat gct gaa caa ttg gct gct gca tca			9144
Arg Asn Gly Gly Pro Ser Asp Ala Glu Gln Leu Ala Ala Ala Ser			
3035	3040	3045	
aca ggg gaa ctt cga ttt tct tac agt tta tta gaa aaa ttg att			9189
Thr Gly Glu Leu Arg Phe Ser Tyr Ser Leu Leu Glu Lys Leu Ile			
3050	3055	3060	
cat tac att gac aga gcg tct ata aac atg aca ctt tta aag cct			9234
His Tyr Ile Asp Arg Ala Ser Ile Asn Met Thr Leu Leu Lys Pro			
3065	3070	3075	
tca ggc aca ttt agc agg cgt tct agt ttc aaa atc tgt aca aga			9279
Ser Gly Thr Phe Ser Arg Arg Ser Ser Phe Lys Ile Cys Thr Arg			
3080	3085	3090	
gat att aaa ttt ttc tcc aaa gtt gtg cta ccg tta gtt gag aaa			9324
Asp Ile Lys Phe Phe Ser Lys Val Val Leu Pro Leu Val Glu Lys			
3095	3100	3105	
tat ttt agc act cat aga aat tac ttc ata acg gtt gcg aca gct			9369
Tyr Phe Ser Thr His Arg Asn Tyr Phe Ile Thr Val Ala Thr Ala			
3110	3115	3120	
tca agt gtt ttg ggt gca gct tcg tta aag gaa aaa gaa atg gtc			9414
Ser Ser Val Leu Gly Ala Ala Ser Leu Lys Glu Lys Glu Met Val			
3125	3130	3135	
gct agt tta ttt tgt aag ttg gca aat ctt ttg aga tct aag tta			9459
Ala Ser Leu Phe Cys Lys Leu Ala Asn Leu Leu Arg Ser Lys Leu			
3140	3145	3150	
atg gcc ttt gga gct gat gtc cgt ata acc gta cga tgt cta caa			9504
Met Ala Phe Gly Ala Asp Val Arg Ile Thr Val Arg Cys Leu Gln			
3155	3160	3165	
gtg ctt gtc aaa gct att gat gct aag tca ctc gta aaa aac tgt			9549
Val Leu Val Lys Ala Ile Asp Ala Lys Ser Leu Val Lys Asn Cys			
3170	3175	3180	
cct gag ttt att aga act tca atg ctt aca ttt ttc cat aac atc			9594
Pro Glu Phe Ile Arg Thr Ser Met Leu Thr Phe Phe His Asn Ile			
3185	3190	3195	
gct gat gat ttg gaa cat aca att caa aat ttg cat gat agt cgt			9639
Ala Asp Asp Leu Glu His Thr Ile Gln Asn Leu His Asp Ser Arg			
3200	3205	3210	
tat tgt tat ttg aga gga act cat ttg aaa aca tca act tca tta			9684
Tyr Cys Tyr Leu Arg Gly Thr His Leu Lys Thr Ser Thr Ser Leu			
3215	3220	3225	
ttt tat gtt aat gac gta att tta cca gtt tta tca tcg ctt ttt			9729
Phe Tyr Val Asn Asp Val Ile Leu Pro Val Leu Ser Ser Leu Phe			
3230	3235	3240	
gat cat tta gct gca tat gaa tat gga aac gag cta ttg tta aat			9774
Asp His Leu Ala Ala Tyr Glu Tyr Gly Asn Glu Leu Leu Leu Asn			
3245	3250	3255	
gaa att caa gta gca gct tat aaa atg ttg agt agt tta tat act			9819
Glu Ile Gln Val Ala Ala Tyr Lys Met Leu Ser Ser Leu Tyr Thr			
3260	3265	3270	
ctt ggc aca gat aca tct tta acg cat gat aga aaa tat tta aaa			9864
Leu Gly Thr Asp Thr Ser Leu Thr His Asp Arg Lys Tyr Leu Lys			
3275	3280	3285	
gta cag ttg gaa aga cat cgt ccg gcg ttt ggt agt tgc ttg ggt			9909
Val Gln Leu Glu Arg His Arg Pro Ala Phe Gly Ser Cys Leu Gly			

3290	gca ttt agt tca aca ttt cct	3295	gtg gct ttc ctt gaa cca cat ctg	9954
	Ala Phe Ser Ser Thr Phe Pro		Val Ala Phe Leu Glu Pro His Leu	
3305	aat aaa cac aat caa tat tcg	3310	ctt ctt aat cga ttt gct gac agt	9999
	Asn Lys His Asn Gln Tyr Ser		Leu Leu Asn Arg Phe Ala Asp Ser	
3320	tca ttg gaa gct cag gat ata	3325	atg tct aga atg gaa ggc act atg	10044
	Ser Leu Glu Ala Gln Asp Ile		Met Ser Arg Met Glu Gly Thr Met	
3335	cct act cta gaa act gta tta	3340	aat gaa gtt gac cag ttt gtc gaa	10089
	Pro Thr Leu Glu Thr Val Leu		Asn Glu Val Asp Gln Phe Val Glu	
3350	tca gaa aaa aca tat gct gat	3355	gca cct cac att att gat gtt att	10134
	Ser Glu Lys Thr Tyr Ala Asp		Ala Pro His Ile Ile Asp Val Ile	
3365	tta cct tta ttg tgt tca tac	3370	tta ccg tac tgg tgg gca caa ggt	10179
	Leu Pro Leu Leu Cys Ser Tyr		Leu Pro Tyr Trp Trp Ala Gln Gly	
3380	cca gat aat gtt gct ctg acc	3385	aca ggt aat cat gtt aca atg gtg	10224
	Pro Asp Asn Val Ala Leu Thr		Thr Gly Asn His Val Thr Met Val	
3395	acc agc gaa cat atg aac tgt	3400	cta tta aaa aat gtt tta aag tta	10269
	Thr Ser Glu His Met Asn Cys		Leu Leu Lys Asn Val Leu Lys Leu	
3410	ata aaa aaa aat att gga aat	3415	gat aat gcc cct tgg atg aca caa	10314
	Ile Lys Lys Asn Ile Gly Asn		Asp Asn Ala Pro Trp Met Thr Gln	
3425	ata gca gct tat aca caa caa	3430	ata att att aat tct tca gaa gaa	10359
	Ile Ala Ala Tyr Thr Gln Gln		Ile Ile Ile Asn Ser Ser Glu Glu	
3440	tta tta aaa gat cca ttt cta	3445	cca ctt gca gaa cga gtt aaa aaa	10404
	Leu Leu Lys Asp Pro Phe Leu		Pro Leu Ala Glu Arg Val Lys Lys	
3455	cgt aca gaa aca tta tac cat	3460	aaa gaa gaa tca tta aga gga ttt	10449
	Arg Thr Glu Thr Leu Tyr His		Lys Glu Glu Ser Leu Arg Gly Phe	
3470	ata aaa tca tct act gat gat	3475	acg tcc caa atc gaa gca caa ata	10494
	Ile Lys Ser Ser Thr Asp Asp		Thr Ser Gln Ile Glu Ala Gln Ile	
3485	caa gaa gat tgg caa ttg gtt	3490	gtt agg gat att tat gct ttt tat	10539
	Gln Glu Asp Trp Gln Leu Val		Val Arg Asp Ile Tyr Ala Phe Tyr	
3500	cca ctc ctc ata aaa tac gtg	3505	gat cct cag cgc aat cac tgg cta	10584
	Pro Leu Leu Ile Lys Tyr Val		Asp Pro Gln Arg Asn His Trp Leu	
3515	cgt aat aac ata tca aat gct	3520	gaa gat tta tac aat cat gtc tct	10629
	Arg Asn Asn Ile Ser Asn Ala		Glu Asp Leu Tyr Asn His Val Ser	
3530	gaa ata ttt aac att tgg tcc	3535	aaa tcg caa tac ttt tta cgt gaa	10674
	Glu Ile Phe Asn Ile Trp Ser		Lys Ser Gln Tyr Phe Leu Arg Glu	
3545	gaa caa aac ttt ata tct gca	3550	aat gaa att gat aac atg ata ctt	10719
	Glu Gln Asn Phe Ile Ser Ala		Asn Glu Ile Asp Asn Met Ile Leu	
3560	att atg cca acg gca act cgg	3565	aga tcg gct gtt ata tca gaa act	10764
	Ile Met Pro Thr Ala Thr Arg		Arg Ser Ala Val Ile Ser Glu Thr	
3575	tcg tta gga ggg tca tct gga	3580	aag aaa aag aaa aaa cac agg gat	10809
	Ser Leu Gly Gly Ser Ser Gly		Lys Lys Lys Lys Lys His Arg Asp	

3590	aaa	aaa	cgt	gac	aaa	gaa	aaa	gaa	att	caa	gct	tca	ttg	atg	gtg	10854
	Lys	Lys	Arg	Asp	Lys	Glu	Lys	Glu	Ile	Gln	Ala	Ser	Leu	Met	Val	
3605	gct	tgt	ctt	aaa	cga	tta	ctg	cca	ggt	ggt	tta	aat	ttg	ttc	gcg	10899
	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly	Leu	Asn	Leu	Phe	Ala	
3620	gga	aga	gaa	caa	gaa	tta	ggt	caa	cat	tgc	aag	gat	aga	ttc	tta	10944
	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys	Lys	Asp	Arg	Phe	Leu	
3635	aaa	aaa	atg	cca	gat	tat	gat	gtg	ata	caa	ttt	gtc	aaa	att	caa	10989
	Lys	Lys	Met	Pro	Asp	Tyr	Asp	Val	Ile	Gln	Phe	Val	Lys	Ile	Gln	
3650	ttg	aca	tta	ccc	gat	aaa	tta	gac	cca	gct	gac	gaa	atg	tcc	tgg	11034
	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ala	Asp	Glu	Met	Ser	Trp	
3665	cag	cac	tat	tta	tac	tcc	aag	tta	gga	agc	aaa	aaa	gga	aat	act	11079
	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Ser	Lys	Lys	Gly	Asn	Thr	
3680	gaa	att	aaa	cca	caa	caa	gtc	gac	gag	gta	gcg	gat	aga	att	gtc	11124
	Glu	Ile	Lys	Pro	Gln	Gln	Val	Asp	Glu	Val	Ala	Asp	Arg	Ile	Val	
3695	gct	atg	gct	aaa	ggt	ctt	tat	gga	ttg	cat	atg	att	gat	cat	cct	11169
	Ala	Met	Ala	Lys	Val	Leu	Tyr	Gly	Leu	His	Met	Ile	Asp	His	Pro	
3710	cag	ctt	caa	agc	aag	gcg	act	tat	cga	tct	ggt	gta	tcg	acg	caa	11214
	Gln	Leu	Gln	Ser	Lys	Ala	Thr	Tyr	Arg	Ser	Val	Val	Ser	Thr	Gln	
3725	cgt	aag	aga	gcc	gta	att	gct	tgt	ttc	cga	caa	ctc	tca	ctc	cac	11259
	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Leu	Ser	Leu	His	
3740	gct	ttg	acc	aga	cac	cgt	gca	gta	aat	ata	ttc	ggt	cgt	tcg	ttt	11304
	Ala	Leu	Thr	Arg	His	Arg	Ala	Val	Asn	Ile	Phe	Val	Arg	Ser	Phe	
3755	tac	gaa	ctt	tgg	ctt	caa	gat	gaa	aat	att	gga	caa	gaa	ggt	atg	11349
	Tyr	Glu	Leu	Trp	Leu	Gln	Asp	Glu	Asn	Ile	Gly	Gln	Glu	Val	Met	
3770	att	gaa	gat	ctc	aca	caa	tca	ttt	gaa	gaa	gcg	gaa	ctt	aaa	aaa	11394
	Ile	Glu	Asp	Leu	Thr	Gln	Ser	Phe	Glu	Glu	Ala	Glu	Leu	Lys	Lys	
3785	cgt	gac	aag	gaa	gaa	gaa	gaa	gga	atg	gca	gac	cca	tta	aat	caa	11439
	Arg	Asp	Lys	Glu	Glu	Glu	Glu	Gly	Met	Ala	Asp	Pro	Leu	Asn	Gln	
3800	atg	ggt	aca	act	ttc	tgc	cga	gga	gcc	atg	act	gaa	aga	agt	ggt	11484
	Met	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu	Arg	Ser	Gly	
3815	gct	tta	caa	gag	gac	cct	ctt	tac	atg	tct	tat	gct	gat	att	ttg	11529
	Ala	Leu	Gln	Glu	Asp	Pro	Leu	Tyr	Met	Ser	Tyr	Ala	Asp	Ile	Leu	
3830	gct	aag	tcc	tgc	ggc	gaa	gaa	gaa	gaa	gaa	ggt	aat	aac	gaa	gaa	11574
	Ala	Lys	Ser	Cys	Gly	Glu	Glu	Glu	Glu	Glu	Gly	Asn	Asn	Glu	Glu	
3845	gaa	ggt	tca	aat	ggt	aac	gga	gat	gaa	gaa	ggc	ggt	gct	tct	atc	11619
	Glu	Gly	Ser	Asn	Gly	Asn	Gly	Asp	Glu	Glu	Gly	Gly	Ala	Ser	Ile	
3860	cat	gag	caa	gaa	atg	gaa	aaa	caa	aag	ctt	ttg	ttt	cac	caa	gct	11664
	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln	Ala	
3875	cga	ttg	gct	aac	cgt	ggt	gtc	gca	gaa	atg	ggt	tta	tta	cac	ata	11709
	Arg	Leu	Ala	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His	Ile	

3890	tca gct tgc aaa ggt ata	3895	ccc agt gaa atg gtt atg	3900	aaa acg ctt	11754
	Ser Ala Cys Lys Gly Ile		Pro Ser Glu Met Val Met		Lys Thr Leu	
3905	caa ttg gga atc gca gtt	3910	ctc cgt ggt ggt aat tta	3915	gac att caa	11799
	Gln Leu Gly Ile Ala Val		Leu Arg Gly Gly Asn Leu		Asp Ile Gln	
3920	atg gga atg tta aat cat	3925	tta aaa gaa aag aaa gat	3930	gtt gga ttt	11844
	Met Gly Met Leu Asn His		Leu Lys Glu Lys Lys Asp		Val Gly Phe	
3935	ttt act tca gtt gct ggt	3940	tta atg aac tca tgc agc	3945	gtt ctt gat	11889
	Phe Thr Ser Val Ala Gly		Leu Met Asn Ser Cys Ser		Val Leu Asp	
3950	ttg gac gct ttt gag aga	3955	aat acc aaa gca gaa ggt	3960	ttg gga gta	11934
	Leu Asp Ala Phe Glu Arg		Asn Thr Lys Ala Glu Gly		Leu Gly Val	
3965	gga tgc gaa ggt gct gct	3970	ggt gaa aaa aat atg cat	3975	gat gca gag	11979
	Gly Ser Glu Gly Ala Ala		Gly Glu Lys Asn Met His		Asp Ala Glu	
3980	ttc acg tgt act cta ttt	3985	aga ttt att caa tta act	3990	tgt gaa gga	12024
	Phe Thr Cys Thr Leu Phe		Arg Phe Ile Gln Leu Thr		Cys Glu Gly	
3995	cat aat tta gaa tgg caa	4000	aat tgt tta aga acc caa	4005	gca gga aat	12069
	His Asn Leu Glu Trp Gln		Asn Cys Leu Arg Thr Gln		Ala Gly Asn	
4010	acc aca act gta aat gtt	4015	gca att tgt aca gtg gat	4020	tat tta ctt	12114
	Thr Thr Thr Val Asn Val		Ala Ile Cys Thr Val Asp		Tyr Leu Leu	
4025	agg ctt cag gaa tct ata	4030	atg gat ttt tat tgg cat	4035	tat tgc agt	12159
	Arg Leu Gln Glu Ser Ile		Met Asp Phe Tyr Trp His		Tyr Ser Ser	
4040	aaa gag tta atc gat cca	4045	gca gga aaa gca aat ttc	4050	ttc aaa gca	12204
	Lys Glu Leu Ile Asp Pro		Ala Gly Lys Ala Asn Phe		Phe Lys Ala	
4055	atc ggt gtc gcc agc caa	4060	gtg ttt aat aca cta tcc	4065	gaa gta att	12249
	Ile Gly Val Ala Ser Gln		Val Phe Asn Thr Leu Ser		Glu Val Ile	
4070	caa gga cca tgt act caa	4075	aat caa cag gcc cta gct	4080	cat tcc agg	12294
	Gln Gly Pro Cys Thr Gln		Asn Gln Gln Ala Leu Ala		His Ser Arg	
4085	ttg tgg gat gct gtt gga	4090	ggg ttt ttg ttt tta ttt	4095	tca cac atg	12339
	Leu Trp Asp Ala Val Gly		Gly Phe Leu Phe Leu Phe		Ser His Met	
4100	caa gat aaa tta tgc aaa	4105	cat tct agt caa gta gat	4110	tta cta aaa	12384
	Gln Asp Lys Leu Ser Lys		His Ser Ser Gln Val Asp		Leu Leu Lys	
4115	gaa ctt ttg aat tta caa	4120	aaa gat atg att acg atg	4125	atg ctg tca	12429
	Glu Leu Leu Asn Leu Gln		Lys Asp Met Ile Thr Met		Met Leu Ser	
4130	atg tta gaa gga aat gtt	4135	gtt aat gga aca att ggt	4140	aaa caa atg	12474
	Met Leu Glu Gly Asn Val		Val Asn Gly Thr Ile Gly		Lys Gln Met	
4145	gtt gac act cta gta gag	4150	tcg gcg tca aat gtc gag	4155	ttg ata ttg	12519
	Val Asp Thr Leu Val Glu		Ser Ala Ser Asn Val Glu		Leu Ile Leu	
4160	aaa tat ttt gac atg ttc	4165	ctg aaa ctt aaa gat tta	4170	acg agt tca	12564
	Lys Tyr Phe Asp Met Phe		Leu Lys Leu Lys Asp Leu		Thr Ser Ser	
4175	aca agc ttt acg gaa att	4180	gac ccc aat aac gat ggt	4185	ttg gta cat	12609
	Thr Ser Phe Thr Glu Ile		Asp Pro Asn Asn Asp Gly		Trp Val His	

4190	ccc aaa	gat ttt	aaa gaa	aaa	4195	atg gaa	caa caa	aaa	4200	agt tat	act	12654
Pro Lys	Asp Phe	Lys Glu	Lys	Met	Glu Gln	Gln Lys	Ser Tyr	Thr				
4205	gcg gag	gaa att	gaa ttt	atg	4210	tta caa	tgt tgt	gaa	4215	tct aat	cat	12699
Ala Glu	Glu Ile	Glu Phe	Met	Leu	Gln Cys	Cys Glu	Ser Asn	His				
4220	gat gga	aaa att	gat tac	att	4225	ggc ttc	act gat	caa	4230	ttc cac	gag	12744
Asp Gly	Lys Ile	Asp Tyr	Ile	Gly	Phe Thr	Asp Gln	Phe His	Glu				
4235	cca tct	aaa gaa	att ggt	ttt	4240	aat ctt	gcc gta	tta	4245	tta act	aat	12789
Pro Ser	Lys Glu	Ile Gly	Phe	Asn	Leu Ala	Val Leu	Leu Thr	Asn				
4250	cta tca	gaa cat	atg cca	aat	4255	gaa cct	aga tta	aca	4260	aga ttc	cta	12834
Leu Ser	Glu His	Met Pro	Asn	Glu	Pro Arg	Leu Thr	Arg Phe	Leu				
4265	gaa aca	gct agc	agt gtt	ttg	4270	aac tat	ttc caa	ccg	4275	ttc ctg	ggt	12879
Glu Thr	Ala Ser	Ser Val	Leu	Asn	Tyr Phe	Gln Pro	Phe Leu	Gly				
4280	aga att	gaa att	ctt gga	gga	4285	agt aag	cgt ata	gaa	4290	cgg gtg	tac	12924
Arg Ile	Glu Ile	Leu Gly	Gly	Ser	Lys Arg	Ile Glu	Arg Val	Tyr				
4295	ttt gaa	att aaa	gaa tca	aat	4300	atc gaa	cag tgg	tta	4305	aaa cct	caa	12969
Phe Glu	Ile Lys	Glu Ser	Asn	Ile	Glu Gln	Trp Leu	Lys Pro	Gln				
4310	att agg	gaa tct	aaa cga	gcg	4315	ttc ttt	tat tca	atc	4320	gtt acc	gag	13014
Ile Arg	Glu Ser	Lys Arg	Ala	Phe	Phe Tyr	Ser Ile	Val Thr	Glu				
4325	ggt ggt	gat aaa	gaa aaa	tta	4330	gaa gca	ttc gtt	aat	4335	ttc tgt	gag	13059
Gly Gly	Asp Lys	Glu Lys	Leu	Glu	Ala Phe	Val Asn	Phe Cys	Glu				
4340	gat gct	ata ttt	gaa atg	caa	4345	cac gct	agt ggt	ctt	4350	atg gca	gtc	13104
Asp Ala	Ile Phe	Glu Met	Gln	His	Ala Ser	Gly Leu	Met Ala	Val				
4355	gat gac	gga tcc	ggt ata	ggt	4360	ggt gga	aaa tct	aga	4365	aaa aca	gct	13149
Asp Asp	Gly Ser	Gly Ile	Gly	Gly	Gly Lys	Ser Arg	Lys Thr	Ala				
4370	tac att	tat ctt	gca gat	gac	4375	gaa gaa	aac aag	acg	4380	gca aaa	gat	13194
Tyr Ile	Tyr Leu	Ala Asp	Asp	Glu	Glu Asn	Lys Thr	Ala Lys	Asp				
4385	ccc att	cga aga	ggc ata	cag	4390	gcc atc	aaa tat	gga	4395	ttc caa	cta	13239
Pro Ile	Arg Arg	Gly Ile	Gln	Ala	Ile Lys	Tyr Gly	Phe Gln	Leu				
4400	ttg ttt	ttc gtg	ttg tca	ccc	4405	act aat	att aaa	aac	4410	aaa atc	aat	13284
Leu Phe	Phe Val	Leu Ser	Pro	Thr	Asn Ile	Lys Asn	Lys Ile	Asn				
4415	gaa att	caa caa	atg agt	ttc	4420	ggt gaa	ctg atc	act	4425	tcg ttt	ttc	13329
Glu Ile	Gln Gln	Met Ser	Phe	Val	Glu Leu	Ile Thr	Ser Phe	Phe				
4430	aaa ctc	tgg ttt	tat tta	ata	4435	ttc tac	act gga	tac	4440	agt gga	gtt	13374
Lys Leu	Trp Phe	Tyr Leu	Ile	Phe	Tyr Thr	Gly Tyr	Ser Gly	Val				
4445	tat gtg	tta agg	tat ata	tct	4450	cgt att	ctc atg	caa	4455	cta atg	agt	13419
Tyr Val	Leu Arg	Tyr Ile	Ser	Arg	Ile Leu	Met Gln	Leu Met	Ser				
4460	ggc acg	caa tcc	gaa gaa	aca	4465	act gta	gaa gtt	gta	4470	gaa aaa	aga	13464
Gly Thr	Gln Ser	Glu Glu	Thr	Thr	Val Glu	Val Val	Glu Lys	Arg				
4475	gcc gga	tcg ttc	aga atg	cta	4480	cct gca	tta cca	tct	4485	tcg gga	gta	13509
Ala Gly	Ser Phe	Arg Met	Leu	Pro	Ala Leu	Pro Ser	Ser Gly	Val				

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Asp Glu Pro Pro Ser Thr	Leu Ile Asp Ser Ser Asn Met Arg Lys			
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Asn Ser Gly Ala Pro Asp	Ser Lys His Val Lys Ser Thr Thr Val			
4520	gga gac gat aaa gac gaa acg	4525	tcg aca gaa aat cat gaa aaa gaa	13644
Gly Asp Asp Lys Asp Glu	Thr Ser Thr Glu Asn His Glu Lys Glu			
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Asp Gly Val Lys Ser Glu	Asp Asn Ser Glu Leu Gln Ala Ser Phe			
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Val Asp Leu Leu Val Gly	Glu Ser Ala Arg Lys Asp Ser Ile Ala			
4565	ggc cct gaa gtt ttg gct caa	4570	caa caa gct gtt atg gca gct gta	13779
Gly Pro Glu Val Leu Ala	Gln Gln Ala Val Met Ala Ala Val			
4580	gaa gca gaa atc aaa caa aag	4585	aac tct gtc gaa aat cct agt gca	13824
Glu Ala Glu Ile Lys Gln	Lys Asn Ser Val Glu Asn Pro Ser Ala			
4595	ttt tct acg atc gat atc aac	4600	gca tac act cac cgt gct tta agt	13869
Phe Ser Thr Ile Asp Ile	Asn Ala Tyr Thr His Arg Ala Leu Ser			
4610	ttt ttg gca aga aac ttt tat	4615	aat tta aaa tac gtt gca cta gta	13914
Phe Leu Ala Arg Asn Phe	Tyr Asn Leu Lys Tyr Val Ala Leu Val			
4625	tta gca ttc tgc att aat ttc	4630	ata cta ctc ttt tac aag gtg aca	13959
Leu Ala Phe Cys Ile Asn	Phe Ile Leu Leu Phe Tyr Lys Val Thr			
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Thr Leu Ala Glu Asp Leu	Ser Asp Asp Gly Asp Ser Lys Asp Phe			
4655	gca ctg ggt tcg gct ggc ata	4660	agc aat gac gat atc gac gat tcg	14049
Ala Leu Gly Ser Ala Gly	Ile Ser Asn Asp Asp Ile Asp Asp Ser			
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Asn Ser Thr Glu Ile Ala	Asp Asp Asp Gly Ala Leu Glu Leu Val			
4685	cat gtc aac gag gac ttc ttt	4690	tac atg gca cac gtt atg cga ctt	14139
His Val Asn Glu Asp Phe	Phe Tyr Met Ala His Val Met Arg Leu			
4700	gcg gct ttg ctt cac tcg ctg	4705	gcc tca tta gca atg ttg att gca	14184
Ala Ala Leu Leu His Ser	Leu Ala Ser Leu Ala Met Leu Ile Ala			
4715	tac tac cat ttg aaa gtg cca	4720	ttg gcc ata ttc aaa cgg gaa aaa	14229
Tyr Tyr His Leu Lys Val	Pro Leu Ala Ile Phe Lys Arg Glu Lys			
4730	gaa atc gcg agg aga tta gaa	4735	ttc gac ggc cta tac att gtt gaa	14274
Glu Ile Ala Arg Arg Leu	Glu Phe Asp Gly Leu Tyr Ile Val Glu			
4745	caa cca gaa gac gat gac ata	4750	aaa tca cac tgg gac aag ttg gtg	14319
Gln Pro Glu Asp Asp Asp	Ile Lys Ser His Trp Asp Lys Leu Val			
4760	atc tcc gcc aag tcg ttt ccg	4765	gtg aat tat tgg gac aag ttt gca	14364
Ile Ser Ala Lys Ser Phe	Pro Val Asn Tyr Trp Asp Lys Phe Ala			
4775	aag aaa aaa gtt cgt caa aag	4780	tat agt gag acg tac gat ttt gat	14409
Lys Lys Lys Val Arg Gln	Lys Tyr Ser Glu Thr Tyr Asp Phe Asp			

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	Ser Ile Ser Asn Leu Leu Gly		Met Glu Lys Thr Ser Phe Ser Thr	
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	Gln Glu Asn Glu Glu Arg Thr		Gly Leu Ile Asn Phe Val Ile Asn	
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	Ile Asp Trp Arg Tyr Gln Val		Trp Lys Ala Gly Val Thr Ile Thr	
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	Asp Asn Ala Phe Leu Tyr Ser		Leu Trp Tyr Phe Thr Phe Ser Ile	
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	Leu Gly Asn Phe Asn Asn Phe		Phe Phe Ala Ala His Leu Leu Asp	
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	Val Ala Val Gly Phe Lys Thr		Leu Arg Thr Ile Leu Gln Ser Val	
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	Thr His Asn Gly Lys Gln Leu		Val Leu Thr Val Leu Leu Leu Thr	
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	Ile Ile Val Tyr Ile Tyr Thr		Val Ile Ala Phe Asn Phe Phe Arg	
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	Lys Phe Tyr Ile Arg Glu		Asp Asp Glu Val Asp Lys Lys Cys	
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	His Asp Met Leu Thr Cys Phe		Val Phe His Leu Tyr Lys Gly Val	
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	Arg Ala Gly Gly Gly Ile Gly		Asp Glu Ile Gly Ser Pro Asp Gly	
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	Asp Asp Tyr Glu Val Tyr Arg		Ile Met Phe Asp Ile Thr Phe Phe	
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	Phe Phe Val Ile Ile Ile Leu		Leu Ala Ile Ile Gln Gly Leu Ile	
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	Ile Asp Ala Phe Gly Glu Leu		Arg Asp Gln Leu Glu Ser Val Lys	
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	Glu Asp Met Glu Ser Asn Cys		Phe Ile Cys Gly Ile Gly Lys Asp	
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	Tyr Phe Asp Lys Val Pro His		Gly Phe Asp Thr His Val Gln Glu	
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	Glu His Asn Leu Ala Asn Tyr		Met Phe Phe Leu Met His Leu Ile	
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	Asn Lys Pro Asp Thr Glu Tyr		Thr Gly Gln Glu Thr Tyr Val Trp	
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	Asn Met Tyr Gln Gln Arg Cys		Trp Asp Phe Phe Pro Val Gly Asp	
5075	tgt ttc cgt aaa caa tac gaa	5080	gag gag ctt ggc ggc gga gga ggc	15309
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gtc tga
Val

5095

5100

15315

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<212> PRT
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Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Tyr Leu Glu
35 40 45
Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val Phe
50 55 60
Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
65 70 75 80
Ala Thr Ser Ser Gln Glu Gly Lys Gly Gly Thr Gly Ser Gly His Arg
85 90 95
Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Gln Asn Ser Asp
100 105 110
Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser
115 120 125
Phe Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp
130 135 140
Thr Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg
145 150 155 160
Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu
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His Thr Ala Lys Glu Asn Glu Leu Ser Val Val Asn Ala Ser Phe His
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Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met
195 200 205
Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His
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Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Ser Asn Val Ser
225 230 235 240
Gly Gln Asn Ile Val Ile Tyr Glu Gly Gly Ser Val Met Ser Gln Ala
245 250 255
Arg Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly
260 265 270
Phe Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Leu Thr Thr Gly
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Arg Tyr Leu Gly Val Asn Glu Asn Asn Glu Leu His Leu Val Cys Arg
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Gly	Ser	Tyr	Leu	Trp	Thr	Gly	Gly	Arg	Lys	Ser	Glu	Val	Met	Pro	Gly
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Ser	Glu	Ile	Ser	Asn	Ile	Lys	Lys	Gly	Asp	Val	Ile	Gly	Cys	Ala	Leu
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His	Gly	Arg	Leu	Lys	Phe	Thr	Pro	Pro	Asp	Glu	Phe	Ser	Pro	Leu	Phe
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His Glu Met Trp Ala Met Asn Lys Ile Glu Ala Gly Trp Gln Tyr Gly						
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Asp Lys Leu Pro Pro Ala Glu Lys Arg Tyr Asp Ser Gln Leu Ala Val						
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Pro Tyr Ser Lys Val Asp Asp Ala Ile Lys Lys Ala Asn Arg Asp						
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Glu Ile Leu Thr Asn Gly Pro Met Arg Val Gly Trp Ala Arg Phe						
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Thr Cys Ser Pro Gly Tyr Gln Ile Gly Ser Asp Glu Asn Ser Trp						
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Glu Ser Phe Gly Arg Gln Trp Gln Val Gly Asp Val Val Gly Val						
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Phe Leu Asp Leu Met Asp His Thr Ile Ser Phe Ser Leu Asn Gly						
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Gln Lys Ala Lys Leu Thr Phe Gly Gln Asp Val Asn Ser Leu Lys						
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Tyr Phe Thr Thr Cys Gly Leu Gln Glu Gly Tyr Glu Pro Phe Cys						
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Val Asn Met Lys Arg Pro Val Thr Tyr Trp Tyr Thr Lys Asp Gln						
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Pro Ile Phe Glu Asn Thr Asp Asp Phe Ser Ser Val Ile Asp Val						
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Thr Arg Ile Pro Ala Gly Ser Asp Thr Pro Pro Cys Leu Lys Ile						
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Ser His Asn Thr Phe Glu Thr Met Glu Arg Ala Asn Trp Glu Phe						
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Leu Arg Leu Ser Leu Pro Val Ile Cys Leu Pro Asn Phe Ile Asp						
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Glu Gln Glu Lys Gln Arg Arg Trp Gln Glu Ile Arg Ile Arg Gln						
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His Arg Leu Leu Ser Gln Ser Glu His Ala Thr Pro Ala His Ile						

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1355	Met Pro Asn Thr Ala Pro	1360	Leu Pro Pro Arg Gly	1365	Lys Asn Gln Pro
1370	Pro Pro Pro Arg Pro Pro	1375	Arg Lys Gly Ser Leu	1380	Ser Arg His Asp
1385	Asp Leu Thr Ile Glu Asn	1390	Asp Gly Lys Leu Asn	1395	Arg Ser Ser Ser
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1415	Asp Ile Asn Lys Asp Asp	1420	Lys Lys Lys Arg Gly	1425	Arg Ser Pro Phe
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2075	Arg Met Asn Glu Phe Asn	2080	Glu Lys Leu Met Lys	2085	Gln Ile Leu Leu
2090	Val Ala Leu Gln Glu Ser	2095	Glu Asp Asp Lys Leu	2100	Asp Leu Asn Asn
2105	Ile Asn Arg Glu Gly Lys	2110	Ile Lys Gln Phe Tyr	2115	Asn Phe Ile Asn
2120	Ala Val Lys Asp Glu Ala	2125	Asn Glu Asn Gly Leu	2130	Asn Glu His Glu
2135	Lys Lys Ile Pro Glu Glu	2140	Ile Phe Arg Lys Val	2145	Leu Ile Thr Thr
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2165	Val Arg Glu Met Phe Ser	2170	Leu Leu Val Arg Gln	2175	Tyr Asp Ser Val
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2210	Ile Arg Ser Leu Leu Pro	2215	Val Gln Met Ser Gln	2220	Glu Glu Glu Glu

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2240	2245	2250
Phe Gln His Pro Asp Leu	Ile Arg Val Leu Arg	Met His Glu Asn
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Val Met Ala Val Met Met	Asn Thr Leu Gly Arg	Arg Ala Gln Ala
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Gln Ser Gln Pro Gly Gly	Thr Thr Val Thr Gly	Gln Asp Gly Glu
2285	2290	2295
Ile Val Pro Lys Glu Lys	Asp Thr Ser His Glu	Met Val Val Ala
2300	2305	2310
Cys Cys Arg Phe Leu Cys	Tyr Phe Cys Arg Thr	Ser Arg Gln Asn
2315	2320	2325
Gln Lys Ala Met Phe Asp	His Phe Ser Phe Leu	Leu Glu Asn Ser
2330	2335	2340
Asn Ile Leu Leu Ser Arg	Pro Ser Leu Arg Gly	Ser Thr Pro Leu
2345	2350	2355
Asp Val Ala Tyr Ser Ser	Leu Met Glu Asn Thr	Glu Leu Ala Leu
2360	2365	2370
Ala Leu Arg Glu His Tyr	Leu Glu Lys Ile Ala	Ile Tyr Leu Ser
2375	2380	2385
Arg Cys Gly Leu Gln Ser	Asn Ser Glu Leu Ile	Glu Lys Gly Tyr
2390	2395	2400
Pro Asp Leu Gly Trp Asp	Pro Val Glu Gly Glu	Arg Tyr Leu Asp
2405	2410	2415
Phe Leu Arg Phe Cys Val	Trp Val Asn Gly Glu	Ser Val Glu Glu
2420	2425	2430
Asn Ala Asn Leu Val Ile	Arg Leu Leu Ile Arg	Arg Pro Glu Cys
2435	2440	2445
Leu Gly Pro Ala Leu Arg	Gly Glu Gly Glu Gly	Leu Leu Arg Ala
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Ile Ile Asp Ala Asn Lys	Met Ser Glu Arg Ile	Ala Glu Arg Arg
2465	2470	2475
Lys Phe Leu Glu Glu Ser	Gly Asn Gln Glu Asn	Ile Gln Leu Asp
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His Pro Leu Pro Glu Ser	Glu Asp Asp Glu Asp	Tyr Ile Asp Thr
2495	2500	2505
Gly Ala Ala Ile Leu Asn	Phe Tyr Cys Thr Leu	Val Asp Leu Leu
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Gly Arg Cys Ala Pro Asp	Ser Ser Val Ile Ala	Leu Gly Lys Asn
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Glu Ser Leu Arg Ala Arg	Ala Ile Leu Arg Ser	Leu Val Pro Leu
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Glu Asp Leu His Gly Val	Leu Ser Leu Arg Phe	Thr Leu Gln Asn
2555	2560	2565
Pro Ala Ala Gly Gln Asp	Arg Pro Lys Ser Asp	Met Pro Ser Gly
2570	2575	2580
Leu Ile Pro Gly His Lys	Gln Ser Val Val Leu	Phe Leu Glu Arg
2585	2590	2595
Val Tyr Gly Ile Glu Met	Gln Glu Leu Phe Phe	Thr Leu Leu Glu
2600	2605	2610
Glu Ala Phe Leu Pro Asp	Leu Arg Thr Ala Thr	Met Leu Asp Arg
2615	2620	2625
Asn Asp Gly Leu Glu Ser	Asp Met Ala Leu Ala	Met Asn Arg Tyr
2630	2635	2640
Ile Gly Asn Ser Val Leu	Pro Leu Leu Ile Gly	His Ser Lys Phe
2645	2650	2655
Tyr Ser Glu Ser Asp Asn	Tyr Ala Asn Leu Leu	Asp Ala Thr Leu
2660	2665	2670
His Thr Val Tyr Arg Leu	Ser Lys Asn Arg Met	Leu Thr Lys Gly

2675	Gln Arg Glu Ala Val Ser Asp	2680	Phe Leu Val Ala Leu	2685	Thr Ser Gln
2690	Met Gln Pro Ser Met Leu Leu	2695	Lys Leu Leu Arg Lys	2700	Leu Thr Val
2705	Asp Val Ser Asn Leu Ser Glu	2710	Tyr Thr Thr Val Ala	2715	Leu Arg Leu
2720	Leu Thr Leu His Tyr Asp Arg	2725	Cys Ala Lys Tyr Tyr	2730	Gly Ser Thr
2735	Gly Gly Gln Gly Ile Tyr Gly	2740	Ala Ser Ser Asp Glu	2745	Glu Lys Arg
2750	Leu Thr Met Met Leu Phe Ser	2755	Asn Ile Phe Asp Ser	2760	Leu Ser Lys
2765	Met Asp Tyr Asp Pro Glu Leu	2770	Phe Gly Lys Ala Leu	2775	Pro Cys Leu
2780	Ser Ala Ile Gly Cys Ala Leu	2785	Pro Pro Asp Tyr Ser	2790	Leu Ser Lys
2795	Asn Tyr Asp Asp Glu Trp Tyr	2800	Gly Ser Lys Gln Asn	2805	Ile Gln Gly
2810	Pro Ser Asp Gly Pro Tyr Asn	2815	Pro Gln Pro Ile Asn	2820	Thr Asn Ser
2825	Ile Val Leu Asp Asn Asp Leu	2830	Asn Ser Ile Val His	2835	Lys Phe Ser
2840	Glu His Tyr His Asp Ala Trp	2845	Ala Asn Arg Lys Leu	2850	Glu Asn Gly
2855	Trp Val Tyr Gly Glu Gln Phe	2860	Asn Asp Val Asn Lys	2865	Ser His Pro
2870	Arg Leu Lys Pro Tyr Met Met	2875	Leu Ser Glu Tyr Glu	2880	Lys Glu Leu
2885	Tyr Lys Glu Pro Val Arg Glu	2890	Ser Leu Lys Ala Leu	2895	Leu Ala Ile
2900	Gly Trp Ser Ile Glu His Ser	2905	Glu Asn Asp Ala Pro	2910	Leu Asn Asn
2915	Arg Gly Ser Val Arg Arg Gln	2920	Ser Lys Ser Asn Glu	2925	Asn Val Thr
2930	Pro Phe Asp Tyr His Pro Asn	2935	Pro Ile Asp Met Thr	2940	Asn Leu Thr
2945	Leu Thr Arg Glu Met Gln Asn	2950	Met Ala Glu Arg Leu	2955	Ala Glu Asn
2960	Ser His Asp Ile Trp Ala Lys	2965	Lys Lys Lys Glu Glu	2970	Val Met Leu
2975	Cys Gly Gly Gly Ile His Asn	2980	Gln Leu Val Pro Tyr	2985	Asp Leu Leu
2990	Thr Asp Lys Glu Lys Lys Lys	2995	Asp Arg Glu Arg Ser	3000	Gln Glu Phe
3005	Leu Lys Tyr Leu Gln Tyr Gln	3010	Gly Tyr Lys Leu His	3015	Arg Pro Asn
3020	Arg Asn Gly Gly Pro Ser Asp	3025	Ala Glu Gln Leu Ala	3030	Ala Ala Ser
3035	Thr Gly Glu Leu Arg Phe Ser	3040	Tyr Ser Leu Leu Glu	3045	Lys Leu Ile
3050	His Tyr Ile Asp Arg Ala Ser	3055	Ile Asn Met Thr Leu	3060	Leu Lys Pro
3065	Ser Gly Thr Phe Ser Arg Arg	3070	Ser Ser Phe Lys Ile	3075	Cys Thr Arg
3080	Asp Ile Lys Phe Phe Ser Lys	3085	Val Val Leu Pro Leu	3090	Val Glu Lys
3095	Tyr Phe Ser Thr His Arg Asn	3100	Tyr Phe Ile Thr Val	3105	Ala Thr Ala
3110	Ser Ser Val Leu Gly Ala Ala	3115	Ser Leu Lys Glu Lys	3120	Glu Met Val

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3170	Pro Glu Phe Ile Arg Thr	3175	Ser Met Leu Thr Phe	3180	Phe His Asn Ile
3185	Ala Asp Asp Leu Glu His	3190	Thr Ile Gln Asn Leu	3195	His Asp Ser Arg
3200	Tyr Cys Tyr Leu Arg Gly	3205	Thr His Leu Lys Thr	3210	Ser Thr Ser Leu
3215	Phe Tyr Val Asn Asp Val	3220	Ile Leu Pro Val Leu	3225	Ser Ser Leu Phe
3230	Asp His Leu Ala Ala Tyr	3235	Glu Tyr Gly Asn Glu	3240	Leu Leu Leu Asn
3245	Glu Ile Gln Val Ala Ala	3250	Tyr Lys Met Leu Ser	3255	Ser Leu Tyr Thr
3260	Leu Gly Thr Asp Thr Ser	3265	Leu Thr His Asp Arg	3270	Lys Tyr Leu Lys
3275	Val Gln Leu Glu Arg His	3280	Arg Pro Ala Phe Gly	3285	Ser Cys Leu Gly
3290	Ala Phe Ser Ser Thr Phe	3295	Pro Val Ala Phe Leu	3300	Glu Pro His Leu
3305	Asn Lys His Asn Gln Tyr	3310	Ser Leu Leu Asn Arg	3315	Phe Ala Asp Ser
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3335	Pro Thr Leu Glu Thr Val	3340	Leu Asn Glu Val Asp	3345	Gln Phe Val Glu
3350	Ser Glu Lys Thr Tyr Ala	3355	Asp Ala Pro His Ile	3360	Ile Asp Val Ile
3365	Leu Pro Leu Leu Cys Ser	3370	Tyr Leu Pro Tyr Trp	3375	Trp Ala Gln Gly
3380	Pro Asp Asn Val Ala Leu	3385	Thr Gly Asn His Val	3390	Thr Met Val
3395	Thr Ser Glu His Met Asn	3400	Cys Leu Leu Lys Asn	3405	Val Leu Lys Leu
3410	Ile Lys Lys Asn Ile Gly	3415	Asn Asp Asn Ala Pro	3420	Trp Met Thr Gln
3425	Ile Ala Ala Tyr Thr Gln	3430	Gln Ile Ile Ile Asn	3435	Ser Ser Glu Glu
3440	Leu Leu Lys Asp Pro Phe	3445	Leu Pro Leu Ala Glu	3450	Arg Val Lys Lys
3455	Arg Thr Glu Thr Leu Tyr	3460	His Lys Glu Glu Ser	3465	Leu Arg Gly Phe
3470	Ile Lys Ser Ser Thr Asp	3475	Asp Thr Ser Gln Ile	3480	Glu Ala Gln Ile
3485	Gln Glu Asp Trp Gln Leu	3490	Val Val Arg Asp Ile	3495	Tyr Ala Phe Tyr
3500	Pro Leu Leu Ile Lys Tyr	3505	Val Asp Pro Gln Arg	3510	Asn His Trp Leu
3515	Arg Asn Asn Ile Ser Asn	3520	Ala Glu Asp Leu Tyr	3525	Asn His Val Ser
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3605	Ala Cys Leu Lys Arg Leu Leu	3610	Pro Val Gly Leu Asn	3615	Leu Phe Ala
3620	Gly Arg Glu Gln Glu Leu Val	3625	Gln His Cys Lys Asp	3630	Arg Phe Leu
3635	Lys Lys Met Pro Asp Tyr Asp	3640	Val Ile Gln Phe Val	3645	Lys Ile Gln
3650	Leu Thr Leu Pro Asp Lys Leu	3655	Asp Pro Ala Asp Glu	3660	Met Ser Trp
3665	Gln His Tyr Leu Tyr Ser Lys	3670	Leu Gly Ser Lys Lys	3675	Gly Asn Thr
3680	Glu Ile Lys Pro Gln Gln Val	3685	Asp Glu Val Ala Asp	3690	Arg Ile Val
3695	Ala Met Ala Lys Val Leu Tyr	3700	Gly Leu His Met Ile	3705	Asp His Pro
3710	Gln Leu Gln Ser Lys Ala Thr	3715	Tyr Arg Ser Val Val	3720	Ser Thr Gln
3725	Arg Lys Arg Ala Val Ile Ala	3730	Cys Phe Arg Gln Leu	3735	Ser Leu His
3740	Ala Leu Thr Arg His Arg Ala	3745	Val Asn Ile Phe Val	3750	Arg Ser Phe
3755	Tyr Glu Leu Trp Leu Gln Asp	3760	Glu Asn Ile Gly Gln	3765	Glu Val Met
3770	Ile Glu Asp Leu Thr Gln Ser	3775	Phe Glu Glu Ala Glu	3780	Leu Lys Lys
3785	Arg Asp Lys Glu Glu Glu Glu	3790	Gly Met Ala Asp Pro	3795	Leu Asn Gln
3800	Met Val Thr Thr Phe Cys Arg	3805	Gly Ala Met Thr Glu	3810	Arg Ser Gly
3815	Ala Leu Gln Glu Asp Pro Leu	3820	Tyr Met Ser Tyr Ala	3825	Asp Ile Leu
3830	Ala Lys Ser Cys Gly Glu Glu	3835	Glu Glu Glu Gly Asn	3840	Asn Glu Glu
3845	Glu Gly Ser Asn Gly Asn Gly	3850	Asp Glu Glu Gly Gly	3855	Ala Ser Ile
3860	His Glu Gln Glu Met Glu Lys	3865	Gln Lys Leu Leu Phe	3870	His Gln Ala
3875	Arg Leu Ala Asn Arg Gly Val	3880	Ala Glu Met Val Leu	3885	Leu His Ile
3890	Ser Ala Cys Lys Gly Ile Pro	3895	Ser Glu Met Val Met	3900	Lys Thr Leu
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3935	Phe Thr Ser Val Ala Gly Leu	3940	Met Asn Ser Cys Ser	3945	Val Leu Asp
3950	Leu Asp Ala Phe Glu Arg Asn	3955	Thr Lys Ala Glu Gly	3960	Leu Gly Val
3965	Gly Ser Glu Gly Ala Ala Gly	3970	Glu Lys Asn Met His	3975	Asp Ala Glu
3980	Phe Thr Cys Thr Leu Phe Arg	3985	Phe Ile Gln Leu Thr	3990	Cys Glu Gly
3995	His Asn Leu Glu Trp Gln Asn	4000	Cys Leu Arg Thr Gln	4005	Ala Gly Asn
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Val Asp Thr Leu Val Glu Ser	Ala Ser Asn Val	Glu Leu Ile Leu
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Lys Tyr Phe Asp Met Phe Leu	Lys Leu Lys Asp	Leu Thr Ser Ser
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Leu Ser Glu His Met Pro Asn	Glu Pro Arg Leu	Thr Arg Phe Leu
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Glu Thr Ala Ser Ser Val Leu	Asn Tyr Phe Gln	Pro Phe Leu Gly
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Phe Glu Ile Lys Glu Ser Asn	Ile Glu Gln Trp	Leu Lys Pro Gln
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Asp Asp Gly Ser Gly Ile Gly	Gly Gly Lys Ser	Arg Lys Thr Ala
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Tyr Ile Tyr Leu Ala Asp Asp	Glu Glu Asn Lys	Thr Ala Lys Asp
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Pro Ile Arg Arg Gly Ile Gln	Ala Ile Lys Tyr	Gly Phe Gln Leu
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Lys Leu Trp Phe Tyr Leu Ile	Phe Tyr Thr Gly	Tyr Ser Gly Val
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Tyr Val Leu Arg Tyr Ile Ser	Arg Ile Leu Met	Gln Leu Met Ser
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4520	Gly Asp Asp Lys Asp Glu	4525	Thr Ser Thr Glu Asn	4530	His Glu Lys Glu
4535	Asp Gly Val Lys Ser Glu	4540	Asp Asn Ser Glu Leu	4545	Gln Ala Ser Phe
4550	Val Asp Leu Leu Val Gly	4555	Glu Ser Ala Arg Lys	4560	Asp Ser Ile Ala
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4670	Asn Ser Thr Glu Ile Ala	4675	Asp Asp Asp Gly Ala	4680	Leu Glu Leu Val
4685	His Val Asn Glu Asp Phe	4690	Phe Tyr Met Ala His	4695	Val Met Arg Leu
4700	Ala Ala Leu Leu His Ser	4705	Leu Ala Ser Leu Ala	4710	Met Leu Ile Ala
4715	Tyr Tyr His Leu Lys Val	4720	Pro Leu Ala Ile Phe	4725	Lys Arg Glu Lys
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4745	Gln Pro Glu Asp Asp Asp	4750	Ile Lys Ser His Trp	4755	Asp Lys Leu Val
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4775	Lys Lys Lys Val Arg Gln	4780	Lys Tyr Ser Glu Thr	4785	Tyr Asp Phe Asp
4790	Ser Ile Ser Asn Leu Leu	4795	Gly Met Glu Lys Thr	4800	Ser Phe Ser Thr
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4820	Ile Asp Trp Arg Tyr Gln	4825	Val Trp Lys Ala Gly	4830	Val Thr Ile Thr
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4850	Leu Gly Asn Phe Asn Asn	4855	Phe Phe Phe Ala Ala	4860	His Leu Leu Asp
4865	Val Ala Val Gly Phe Lys	4870	Thr Leu Arg Thr Ile	4875	Leu Gln Ser Val
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Phe Phe Val Ile Ile Ile	Leu Leu Ala Ile Ile	Gln Gly Leu Ile
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Glu Asp Met Glu Ser Asn	Cys Phe Ile Cys Gly	Ile Gly Lys Asp
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Glu His Asn Leu Ala Asn	Tyr Met Phe Phe Leu	Met His Leu Ile
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Val Ser Phe Leu Arg Thr Glu Asp Met Val Cys Leu Ser Cys Thr Ala	
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Thr Gln Phe Xaa Arg Gly Leu Glu Thr Leu Gln Val Asn Arg Arg His	
415 420 425	
tcg tta ttt tgt gca act gtg aat ttg aat gaa atg gta atg tgc ctc	1348
Ser Leu Phe Cys Ala Thr Val Asn Leu Asn Glu Met Val Met Cys Leu	
430 435 440	
gaa gat ttg att aac tat ttt gcg cag cca gca gat gat atg gaa cac	1396
Glu Asp Leu Ile Asn Tyr Phe Ala Gln Pro Ala Asp Asp Met Glu His	
445 450 455 460	
gaa gaa aaa caa aat agg ttc cgt gca ttg aga aat cgt caa gat ctg	1444
Glu Glu Lys Gln Asn Arg Phe Arg Ala Leu Arg Asn Arg Gln Asp Leu	
465 470 475	
ttt caa gaa gaa ggc ata tta aat tta att ctg gaa gcc atc gat aaa	1492
Phe Gln Glu Glu Gly Ile Leu Asn Leu Ile Leu Glu Ala Ile Asp Lys	
480 485 490	
ata aat gtg ata acg tct caa gga ttc ctt gta agt tta gca gga gat	1540
Ile Asn Val Ile Thr Ser Gln Gly Phe Leu Val Ser Leu Ala Gly Asp	
495 500 505	
gaa tca gga caa agc tgg gat ata att tct ggt tac ctg tat caa ctt	1588
Glu Ser Gly Gln Ser Trp Asp Ile Ile Ser Gly Tyr Leu Tyr Gln Leu	
510 515 520	
ctt gct gct ata att aaa gga aat cat aca aat tgc gct cag ttt gcg	1636
Leu Ala Ala Ile Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala	
525 530 535 540	
aat tca aat cgt ctg aat tgg ctg ttc agc aga ctg ggc tca caa gca	1684
Asn Ser Asn Arg Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala	
545 550 555	
tca agt gaa ggc acg gga atg ctt gat gta ttg cat tgt gtt ctc att	1732
Ser Ser Glu Gly Thr Gly Met Leu Asp Val Leu His Cys Val Leu Ile	
560 565 570	
gat tcg cct gaa gcg ttg aat atg atg agg gat gag cat ata aaa gtt	1780
Asp Ser Pro Glu Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val	
575 580 585	
ata ata tct ctt ctt gag aaa cat gga agg gat ccg aaa gtt ttg gat	1828
Ile Ile Ser Leu Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp	
590 595 600	
gtt ctc tgt tca ctg tgt gtg ggt aat ggt gtt gct gtt cgt agc tca	1876
Val Leu Cys Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser	
605 610 615 620	
caa aac aat att tgt gat ttc ctt cta cct gga aaa aat ctt ctt cct	1924
Gln Asn Asn Ile Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Pro	
625 630 635	
caa acg caa cta gtg gat cat gtg gct agt gtc cgt cca aat ata ttt	1972
Gln Thr Gln Leu Val Asp His Val Ala Ser Val Arg Pro Asn Ile Phe	
640 645 650	
gtt ggg cgt gtt gtt ggc tct gca gtt tat caa aaa tgg tat ttt gag	2020
Val Gly Arg Val Val Gly Ser Ala Val Tyr Gln Lys Trp Tyr Phe Glu	
655 660 665	
gtt acc atg gat cac att gag cag aca aca cac atg aca cct cac ttg	2068
Val Thr Met Asp His Ile Glu Gln Thr Thr His Met Thr Pro His Leu	
670 675 680	
aga att ggc tgg gcg aac act agt gga tat gtg cct tat cct gga gga	2116
Arg Ile Gly Trp Ala Asn Thr Ser Gly Tyr Val Pro Tyr Pro Gly Gly	
685 690 695 700	
ggt gaa aag tgg ggt gga aat gga gtt ggt gat gat ctt tat tct tat	2164
Gly Glu Lys Trp Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Tyr	
705 710 715	
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Gly Phe Asp Gly Ala Asn Leu Trp Thr Gly Gly Arg Lys Thr Cys Val	
720 725 730	

cta ccg cat gcg act gag cca ttc atc aag aaa ggc gat gta att gga	2260
Leu Pro His Ala Thr Glu Pro Phe Ile Lys Lys Gly Asp Val Ile Gly	
735 740 745	
gtg tct cta gat tta act gtg cca atc ata aca ttt tca ttc aat ggt	2308
Val Ser Leu Asp Leu Thr Val Pro Ile Ile Thr Phe Ser Phe Asn Gly	
750 755 760	
tcg cct att agg ggc tgc ttc aga gat ttc aac tat gat gga atg ttc	2356
Ser Pro Ile Arg Gly Cys Phe Arg Asp Phe Asn Tyr Asp Gly Met Phe	
765 770 775 780	
ttt cct gtt ata agt tgc tgc cac aag cta agt tgc cga ttt ctt tta	2404
Phe Pro Val Ile Ser Cys Ser His Lys Leu Ser Cys Arg Phe Leu Leu	
785 790 795	
ggg gga gac cat ggt cga ctg aaa tat gtt cca cca gaa gaa ttc tct	2452
Gly Gly Asp His Gly Arg Leu Lys Tyr Val Pro Pro Glu Glu Phe Ser	
800 805 810	
cca ctt gtt gaa agt ctg ctt cct caa caa gtg ttg tcc att gat cca	2500
Pro Leu Val Glu Ser Leu Leu Pro Gln Gln Val Leu Ser Ile Asp Pro	
815 820 825	
tgt ttc tac ttt ggt aat ttg aac aaa tgt gta tta tca ggc cca tgg	2548
Cys Phe Tyr Phe Gly Asn Leu Asn Lys Cys Val Leu Ser Gly Pro Trp	
830 835 840	
aca gtt gag gat gat aca gca ttt gtt cca aca cct gtt gat aca aca	2596
Thr Val Glu Asp Asp Thr Ala Phe Val Pro Thr Pro Val Asp Thr Thr	
845 850 855 860	
aag gtt tcg ctc cca aat tat att gag agc ata aga gat aag ttg gca	2644
Lys Val Ser Leu Pro Asn Tyr Ile Glu Ser Ile Arg Asp Lys Leu Ala	
865 870 875	
gaa aat att cat gaa atg tgg gct atg aac aag ata gaa gct ggc tgg	2692
Glu Asn Ile His Glu Met Trp Ala Met Asn Lys Ile Glu Ala Gly Trp	
880 885 890	
atg ttt ggg gag aag cga gat gac ata cgt aaa gtg cat cca tgc ctt	2740
Met Phe Gly Glu Lys Arg Asp Asp Ile Arg Lys Val His Pro Cys Leu	
895 900 905	
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Ile Gln Phe Asp Gln Leu Pro Ala Glu Lys Arg Tyr Asp Ser Gln	
910 915 920	
ctc gca gtt caa act ctc aag aca att ctg gca ctc ggc tac tac ata	2836
Leu Ala Val Gln Thr Leu Lys Thr Ile Leu Ala Leu Gly Tyr Tyr Ile	
925 930 935 940	
acg atg gat aag cct cct tcg cgt ata aaa aca att cgt ctt cca aat	2884
Thr Met Asp Lys Pro Pro Ser Arg Ile Lys Thr Ile Arg Leu Pro Asn	
945 950 955	
gag cct ttc atg caa tca aat ggc tac aag cca gca cca ctt gat ctc	2932
Glu Pro Phe Met Gln Ser Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu	
960 965 970	
acg gcc ata tca tta aca ccg aaa atg gag gaa tta gtt gat caa cta	2980
Thr Ala Ile Ser Leu Thr Pro Lys Met Glu Glu Leu Val Asp Gln Leu	
975 980 985	
gcc gag aat aca cat aat cta tgg gcc aaa gaa cga atc caa caa ggg	3028
Ala Glu Asn Thr His Asn Leu Trp Ala Lys Glu Arg Ile Gln Gln Gly	
990 995 1000	
tgg acg tat gga ctc aat gag gac tct gat atg ttg aga agt ccg	3073
Trp Thr Tyr Gly Leu Asn Glu Asp Ser Asp Met Leu Arg Ser Pro	
1005 1010 1015	
cat ctg gtg cct tac tgc aaa gtt gac gaa gct ata aaa aaa gct	3118
His Leu Val Pro Tyr Cys Lys Val Asp Glu Ala Ile Lys Lys Ala	
1020 1025 1030	
aac agg gat act gca agt gaa acg gtc aga act cta ttg gtg tat	3163
Asn Arg Asp Thr Ala Ser Glu Thr Val Arg Thr Leu Leu Val Tyr	
1035 1040 1045	

ggc	tac	aat	cta	gat	ccc	ccc	acc	ggc	gaa	gca	cat	gaa	gct	ctt	3208
Gly	Tyr	Asn	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Ala	His	Glu	Ala	Leu	
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Leu	Ala	Glu	Ala	Ser	Arg	Leu	Arg	Gln	Thr	His	Phe	Arg	Thr	Tyr	
1065					1070					1075					
cga	gca	gaa	aag	aac	tat	gcc	gtg	aca	acg	gga	aag	tgg	tat	ttt	3298
Arg	Ala	Glu	Lys	Asn	Tyr	Ala	Val	Thr	Thr	Gly	Lys	Trp	Tyr	Phe	
1080					1085					1090					
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Glu	Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg	Val	Gly	Trp	Ala	
1095					1100					1105					
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Arg	Ser	Asp	Cys	Pro	Pro	Gly	Ser	Gln	Leu	Gly	Asn	Asp	Glu	Tyr	
1110					1115					1120					
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Ser	Trp	Ala	Phe	Asp	Gly	Phe	Asn	Glu	Glu	Lys	Val	Tyr	Leu	Gly	
1125					1130					1135					
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Gly	Val	Phe	Leu	Asp	Leu	Leu	Asp	His	Thr	Met	Ser	Phe	Ser	Leu	
1155					1160					1165					
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Asn	Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Ser	Phe	
1170					1175					1180					
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Ala	Asp	Val	Gln	Gly	Glu	Ser	Phe	Val	Pro	Ala	Phe	Thr	Leu	Gly	
1185					1190					1195					
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Val	Gly	Gln	Lys	Ala	Lys	Leu	Thr	Phe	Gly	Gln	Asp	Val	Thr	Val	
1200					1205					1210					
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Leu	Lys	Phe	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	
1215					1220					1225					
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Phe	Cys	Val	Asn	Met	Asn	Arg	Ala	Val	Thr	Tyr	Trp	Tyr	Thr	Lys	
1230					1235					1240					
gac	cac	cca	att	ttt	gag	aat	act	gaa	gat	tat	gcc	gac	tca	cga	3793
Asp	His	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Asp	Tyr	Ala	Asp	Ser	Arg	
1245					1250					1255					
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Ile	Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp	Thr	Pro	Pro	Cys	
1260					1265					1270					
ctc	aaa	ata	agt	cac	aac	cta	ttc	gag	tca	atg	gaa	aaa	gcc	aat	3883
Leu	Lys	Ile	Ser	His	Asn	Leu	Phe	Glu	Ser	Met	Glu	Lys	Ala	Asn	
1275					1280					1285					
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Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile	Cys	His	Ser	Ser	
1290					1295					1300					
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Phe	Ile	Glu	Glu	Ser	Glu	Lys	Leu	Lys	Arg	Trp	Gln	Glu	Ile	Arg	
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Ile	Arg	Gln	His	Arg	Leu	Leu	Val	Glu	Ala	Asp	Gln	Thr	Thr	Pro	
1320					1325					1330					
gcc	cat	atg	gaa	caa	atc	atg	aaa	tct	ggc	ctc	tcc	atg	agt	gac	4063
Ala	His	Met	Glu	Gln	Ile	Met	Lys	Ser	Gly	Leu	Ser	Met	Ser	Asp	
1335					1340					1345					

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Ile	Lys	Gly	Leu	His	Arg	Gly	Tyr	Ser	Glu	Asp	Ala	Val	Glu	Ala	
1350					1355					1360					
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Asp	Glu	Met	Met	Met	Gln	Ser	Thr	Pro	Thr	Thr	Lys	Ser	Lys	Met	
1365					1370					1375					
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Arg	Gln	Pro	Ser	Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Ser	Arg	Asn	
1380					1385					1390					
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Glu	Asp	Met	Pro	Met	Ile	Asn	Gly	Ser	Leu	Glu	Gln	Ser	Lys	Met	
1395					1400					1405					
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Asn	Arg	Ser	Thr	Ser	Glu	Leu	Asp	Leu	Asn	Arg	Tyr	Asn	Ala	Asp	
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Leu	Gln	Asn	Asp	Lys	Asp	Asp	Lys	Lys	Lys	Arg	Gly	Arg	Ser	Pro	
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Phe	Arg	Phe	Phe	Ser	Arg	Lys	Arg	Glu	Ala	Ser	Asn	Glu	Arg	Ser	
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Lys	Lys	Ala	Lys	Ser	Pro	Glu	Pro	Asn	Ser	Met	Met	Glu	Ala	Asp	
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Thr	Val	Lys	Val	Thr	Ala	Pro	Asp	Met	Lys	Val	Ile	Pro	Pro	Thr	
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Ile	Pro	Glu	Arg	Ser	Asn	Met	Pro	Lys	Gln	Met	Thr	Gly	Ala	Pro	
1500					1505					1510					
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Leu	Ser	Gly	Ser	Gly	Ile	Glu	Ser	Val	Gly	Asn	Glu	Ile	Phe	Asp	
1515					1520					1525					
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Gly	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu	Tyr	Phe	Tyr	Gly	Val	Arg	
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Thr	Thr	Gln	Tyr	His	Phe	Phe	Ala	Asn	Glu	Phe	Asn	Gln	Ser	Lys	
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Val	Arg	Lys	Val	Thr	Val	His	Thr	Leu	Asp	Glu	Phe	Ser	Arg	Val	
1575					1580					1585					
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Asn	Glu	Ser	Val	Asp	Arg	Gln	Ser	Cys	Tyr	Met	Val	Arg	Ser	Asp	
1590					1595					1600					
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Glu	Leu	Phe	Asn	Glu	Val	Thr	Asn	Asp	Ser	Ser	Gly	Lys	Gly	Ala	
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Ser	Gln	Gly	Met	Phe	Ile	Gly	Cys	Phe	Val	Asp	Ala	Ala	Thr	Gly	
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Tyr	Ile	Ser	Phe	Thr	Cys	Glu	Gly	Lys	Glu	Thr	Ser	His	Lys	Phe	
1635					1640					1645					

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Lys	Met	Glu	Pro	Glu	Thr	Lys	Leu	Phe	Pro	Ala	Ile	Phe	Val	Glu	
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Thr	Thr	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Gln	Asn	Ser	Glu	Arg	
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His	Val	Asn	Pro	Gln	Phe	Pro	Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu	
1695					1700					1705					
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Lys	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Val	Ser	Leu	Gln	Val	
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His	Ala	Leu	Lys	Leu	Ser	Asp	Ile	Arg	Gly	Trp	Ser	Met	Leu	Cys	
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Glu	Asp	Pro	Met	Ser	Met	Leu	Ala	Leu	His	Ile	Pro	Glu	Glu	Asp	
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Arg	Ser	Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met	Glu	Lys	Leu	Leu	
1755					1760					1765					
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Ser	Phe	His	Ala	His	Thr	Leu	Thr	Leu	Tyr	Ala	Ala	Leu	Cys	Phe	
1770					1775					1780					
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Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Thr	Leu	Cys	Ser	His	Val	Asp	
1785					1790					1795					
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Glu	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Arg	Ser	Asp	Tyr	Met	Ser	Gly	
1800					1805					1810					
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Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile	Ala	Leu	His	Leu	
1815					1820					1825					
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Glu	Ser	His	Ala	Tyr	Thr	Met	Glu	Val	Cys	Lys	Asn	Glu	Phe	Ile	
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Ile	Pro	Ile	Gly	Gln	Glu	Leu	Lys	Asp	Val	Tyr	Glu	Asp	Pro	Glu	
1845					1850					1855					
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Met	Cys	His	Ser	Leu	Arg	Ser	Leu	Lys	Thr	Glu	Ser	Val	Leu	Pro	
1860					1865					1870					
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Thr	Met	Lys	Met	Thr	Asp	Lys	Ala	Asp	Glu	Pro	Ser	Pro	Ser	Glu	
1875					1880					1885					
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Val	Val	Asp	Asn	Ile	Arg	Ser	Leu	Tyr	Ser	Pro	Gln	Phe	Pro	Leu	
1890					1895					1900					
gat	gtg	gtc	aga	gat	ttt	gtt	atg	gct	gca	ctc	gat	gaa	gct	gtt	5773
Asp	Val	Val	Arg	Asp	Phe	Val	Met	Ala	Ala	Leu	Asp	Glu	Ala	Val	
1905					1910					1915					
caa	atc	aac	caa	ctc	cat	aat	aga	gat	ccg	gtg	gga	ggc	tct	aat	5818
Gln	Ile	Asn	Gln	Leu	His	Asn	Arg	Asp	Pro	Val	Gly	Gly	Ser	Asn	
1920					1925					1930					
gaa	aac	tac	ttc	ctg	cca	ctg	ttg	aag	tta	gtt	gac	cgc	ttg	tta	5863
Glu	Asn	Tyr	Phe	Leu	Pro	Leu	Leu	Lys	Leu	Val	Asp	Arg	Leu	Leu	
1935					1940					1945					

cta	gtc	ggg	atg	ctt	cga	gat	gga	gat	gtc	atg	aag	ctg	ctg	ata	5908
Leu	Val	Gly	Met	Leu	Arg	Asp	Gly	Asp	Val	Met	Lys	Leu	Leu	Ile	
1950					1955					1960					
atg	ttc	agt	cca	gaa	act	tgg	gac	acg	gca	ttt	gaa	aaa	gat	ggc	5953
Met	Phe	Ser	Pro	Glu	Thr	Trp	Asp	Thr	Ala	Phe	Glu	Lys	Asp	Gly	
1965					1970					1975					
aaa	gat	gaa	cac	cgg	aag	ggg	ttg	ctg	act	atg	aag	atg	gct	gaa	5998
Lys	Asp	Glu	His	Arg	Lys	Gly	Leu	Leu	Thr	Met	Lys	Met	Ala	Glu	
1980					1985					1990					
ggg	gct	aaa	ttg	cag	atg	tgc	tac	cta	ttg	cat	cat	ctt	tac	gat	6043
Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	His	His	Leu	Tyr	Asp	
1995					2000					2005					
atc	caa	ctt	cgt	cac	aga	gtg	gaa	gct	att	atc	tct	ttt	agt	gtc	6088
Ile	Gln	Leu	Arg	His	Arg	Val	Glu	Ala	Ile	Ile	Ser	Phe	Ser	Val	
2010					2015					2020					
gat	ttc	gtc	gga	gat	ttg	caa	tca	gat	caa	ctc	aga	aga	tat	atc	6133
Asp	Phe	Val	Gly	Asp	Leu	Gln	Ser	Asp	Gln	Leu	Arg	Arg	Tyr	Ile	
2025					2030					2035					
gag	atc	aaa	caa	tca	gac	tta	cca	tct	gcc	atc	gca	gct	aaa	aag	6178
Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Ile	Ala	Ala	Lys	Lys	
2040					2045					2050					
acc	agg	gag	ttc	cga	tgt	cca	ccc	aga	gaa	cag	atg	aat	gct	att	6223
Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile	
2055					2060					2065					
ctc	gga	ttc	aaa	aac	ttg	gaa	gaa	ggg	gat	ata	gag	aac	tgc	cca	6268
Leu	Gly	Phe	Lys	Asn	Leu	Glu	Glu	Gly	Asp	Ile	Glu	Asn	Cys	Pro	
2070					2075					2080					
tgt	gga	gat	gaa	ctt	aga	gag	cgg	ttg	aat	tct	ttc	cat	gag	aaa	6313
Cys	Gly	Asp	Glu	Leu	Arg	Glu	Arg	Leu	Asn	Ser	Phe	His	Glu	Lys	
2085					2090					2095					
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Leu	Met	His	Lys	Val	Ser	Leu	Leu	Ala	Leu	Gln	Glu	Pro	Ser	Glu	
2100					2105					2110					
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Glu	Glu	Ala	Ser	Ala	Glu	Glu	Val	Lys	Lys	Pro	Asn	Ala	Leu	Asn	
2115					2120					2125					
cgt	ctt	tat	aac	ttc	ata	aat	gcg	gtc	aaa	gag	ctt	gaa	gaa	act	6448
Arg	Leu	Tyr	Asn	Phe	Ile	Asn	Ala	Val	Lys	Glu	Leu	Glu	Glu	Thr	
2130					2135					2140					
cct	cag	ata	gaa	gaa	gag	cct	gag	aaa	aaa	act	cca	gaa	gaa	atc	6493
Pro	Gln	Ile	Glu	Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Ile	
2145					2150					2155					
ttc	agg	aag	gtt	ctg	atc	agc	aca	att	gtc	aaa	tgg	gct	gaa	gag	6538
Phe	Arg	Lys	Val	Leu	Ile	Ser	Thr	Ile	Val	Lys	Trp	Ala	Glu	Glu	
2160					2165					2170					
act	caa	att	gaa	tca	cca	aaa	ctt	gtg	aga	gag	atg	ttc	agt	ttg	6583
Thr	Gln	Ile	Glu	Ser	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	
2175					2180					2185					
ttg	gta	cgt	cag	tat	gat	act	gtt	ggc	gaa	ctg	atc	cgt	gct	ctg	6628
Leu	Val	Arg	Gln	Tyr	Asp	Thr	Val	Gly	Glu	Leu	Ile	Arg	Ala	Leu	
2190					2195					2200					
gga	aag	acg	tat	gtg	att	aac	agc	aaa	act	aag	gat	gat	gct	gcc	6673
Gly	Lys	Thr	Tyr	Val	Ile	Asn	Ser	Lys	Thr	Lys	Asp	Asp	Ala	Ala	
2205					2210					2215					
ttg	atg	tgg	gtt	gga	ctg	agt	cag	ata	cgt	gcc	tta	ttg	cct	gtg	6718
Leu	Met	Trp	Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	
2220					2225					2230					
caa	atg	tct	caa	gag	gaa	gaa	ggg	ctt	atg	cgc	gag	cgt	tta	tgg	6763
Gln	Met	Ser	Gln	Glu	Glu	Glu	Gly	Leu	Met	Arg	Glu	Arg	Leu	Trp	
2235					2240					2245					

aaa	ttg	gtc	aac	aat	cat	act	ttc	ttc	cag	cac	ccc	gat	ttg	ata	6808
Lys	Leu	Val	Asn	Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	
2250					2255					2260					
aga	gtg	ctg	cgt	gtg	cat	gaa	aac	gtg	atg	gca	gtg	atg	atg	aac	6853
Arg	Val	Leu	Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	
2265					2270					2275					
act	ctt	ggg	agg	cgg	gcc	caa	gcc	cag	tca	gac	gct	cct	caa	gct	6898
Thr	Leu	Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Gln	Ala	
2280					2285					2290					
ggg	cag	gaa	gga	gag	cca	gtg	gcc	aaa	gaa	aaa	gat	act	tct	cac	6943
Gly	Gln	Glu	Gly	Glu	Pro	Val	Ala	Lys	Glu	Lys	Asp	Thr	Ser	His	
2295					2300					2305					
gag	atg	gtt	gtg	gct	tgc	tgt	cgg	ttc	ctg	tgc	tac	ttc	tgt	aga	6988
Glu	Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	
2310					2315					2320					
aca	tcc	aga	cag	aat	cag	aaa	gct	atg	ttc	gat	cac	ttc	gca	ttt	7033
Thr	Ser	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Ala	Phe	
2325					2330					2335					
ctc	ctg	gaa	aac	agt	aat	att	tta	cta	tca	cgg	cct	tct	ttg	aga	7078
Leu	Leu	Glu	Asn	Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	
2340					2345					2350					
ggg	agc	act	cct	ctt	gat	gtt	gct	tat	tca	tca	ctc	atg	gag	aac	7123
Gly	Ser	Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	
2355					2360					2365					
acc	gag	ctc	gct	ctt	gcg	ctc	aga	gaa	cac	tac	ttg	gag	aaa	att	7168
Thr	Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	
2370					2375					2380					
gct	ata	tac	ttg	tcc	cga	tgt	gga	ctg	caa	tcc	aat	tct	gag	ttg	7213
Ala	Ile	Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	
2385					2390					2395					
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Ile	Glu	Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	
2400					2405					2410					
gaa	aga	tac	ctt	gat	ttt	cta	cgt	ttc	tgc	gtc	tgg	gtt	aat	ggg	7303
Glu	Arg	Tyr	Leu	Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	
2415					2420					2425					
gag	agt	gtt	gaa	gaa	aat	gcc	aat	ctt	gtt	atc	agg	ctg	ctg	att	7348
Glu	Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	
2430					2435					2440					
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Arg	Arg	Pro	Gly	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	
2445					2450					2455					
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Gly	Leu	Leu	Arg	Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	
2460					2465					2470					
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Ile	Ala	Asp	Arg	Arg	Lys	Val	Met	Asp	Glu	Pro	Glu	Gly	Thr	Thr	
2475					2480					2485					
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Met	Val	Met	His	Phe	Glu	His	Pro	Leu	Pro	Glu	Ser	Asp	Asp	Asp	
2490					2495					2500					
gag	gat	tat	att	gat	act	ggg	gct	gca	atc	ctt	gca	ttc	tat	tgt	7573
Glu	Asp	Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Ala	Phe	Tyr	Cys	
2505					2510					2515					
act	ctg	gta	gat	tta	ctt	ggg	cgt	tgt	gct	cct	gat	tct	tct	gtc	7618
Thr	Leu	Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ser	Ser	Val	
2520					2525					2530					
att	gcc	caa	ggg	aaa	aat	gaa	tca	ttg	aga	gct	cga	gcc	atc	ttg	7663
Ile	Ala	Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	
2535					2540					2545					

cga	tct	cta	gta	cct	cta	gag	gat	ctc	cag	ggg	gtt	cta	agt	ctc	7708
Arg	Ser	Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	
2550					2555					2560					
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Lys	Phe	Thr	Leu	Gln	Asn	Pro	Ala	Ala	Gly	Glu	Glu	Arg	Pro	Lys	
2565					2570					2575					
agt	gat	atg	ccc	tcc	ggc	ttg	att	cct	ggg	cac	aaa	caa	agt	gtc	7798
Ser	Asp	Met	Pro	Ser	Gly	Leu	Ile	Pro	Gly	His	Lys	Gln	Ser	Val	
2580					2585					2590					
gtt	ctc	ttc	ttg	gag	aga	gtc	tat	ggc	att	gaa	aca	caa	gaa	ctg	7843
Val	Leu	Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Thr	Gln	Glu	Leu	
2595					2600					2605					
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Phe	Phe	Arg	Leu	Leu	Glu	Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	
2610					2615					2620					
gct	act	atg	ctt	gac	agg	aat	gac	ggc	tct	gaa	tca	gat	atg	gca	7933
Ala	Thr	Met	Leu	Asp	Arg	Asn	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	
2625					2630					2635					
tta	gct	atg	aac	cgc	tac	att	ggc	aat	tcc	atc	ctg	cct	ttg	ttg	7978
Leu	Ala	Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	
2640					2645					2650					
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Ile	Thr	His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Asp	Asn	Tyr	Ala	Ser	
2655					2660					2665					
ttg	ttg	gat	gct	acg	ttg	cac	act	gta	tac	cgg	tta	tca	aag	aat	8068
Leu	Leu	Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	
2670					2675					2680					
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Arg	Met	Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	
2685					2690					2695					
gta	gct	ctg	acg	tct	tcc	atg	cag	ccg	agt	atg	ctg	ttg	aaa	ttg	8158
Val	Ala	Leu	Thr	Ser	Ser	Met	Gln	Pro	Ser	Met	Leu	Leu	Lys	Leu	
2700					2705					2710					
cta	aga	aaa	ttg	act	gtt	gac	gtt	tca	aaa	cta	act	gaa	tac	aca	8203
Leu	Arg	Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Thr	Glu	Tyr	Thr	
2715					2720					2725					
aca	gtt	gct	ctg	cga	ttg	ctc	act	ctt	cat	tat	gat	cgc	tgc	gcc	8248
Thr	Val	Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Tyr	Asp	Arg	Cys	Ala	
2730					2735					2740					
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Lys	Tyr	Tyr	Gly	Ser	Thr	Gly	Gly	Gln	Gly	Leu	Tyr	Gly	Ser	Ser	
2745					2750					2755					
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Ser	Asp	Glu	Glu	Lys	Arg	Leu	Thr	Met	Met	Leu	Phe	Ser	Asn	Ile	
2760					2765					2770					
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Phe	Asp	Ser	Leu	Ser	Lys	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	
2775					2780					2785					
aaa	gct	ctg	ccg	tgc	ttg	aca	gct	att	ggc	tgt	gct	ctg	cca	ccc	8428
Lys	Ala	Leu	Pro	Cys	Leu	Thr	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	
2790					2795					2800					
gat	tat	tct	ctc	tcg	aag	aat	tat	gat	gat	gaa	ctg	tac	ggg	gca	8473
Asp	Tyr	Ser	Leu	Ser	Lys	Asn	Tyr	Asp	Asp	Glu	Leu	Tyr	Gly	Ala	
2805					2810					2815					
aga	gat	tca	caa	gct	ggg	cca	tct	gat	ggc	cct	tat	aat	cct	cag	8518
Arg	Asp	Ser	Gln	Ala	Gly	Pro	Ser	Asp	Gly	Pro	Tyr	Asn	Pro	Gln	
2820					2825					2830					
cct	ata	aat	act	cat	agt	gtt	gtc	ctc	aac	aat	gac	ttg	aac	aca	8563
Pro	Ile	Asn	Thr	His	Ser	Val	Val	Leu	Asn	Asn	Asp	Leu	Asn	Thr	
2835					2840					2845					

ata gtt caa aaa ttc tcc	gaa cat tat cat gat	gca tgg gcg agc	8608
Ile Val Gln Lys Phe Ser	Glu His Tyr His Asp	Ala Trp Ala Ser	
2850	2855	2860	
agg aag cta gag aat gga	tgg act tac ggt gat	cag tgg agt gac	8653
Arg Lys Leu Glu Asn Gly	Trp Thr Tyr Gly Asp	Gln Trp Ser Asp	
2865	2870	2875	
tca caa aaa act cac cca	agg cta aag cca tac	aat atg ctc aac	8698
Ser Gln Lys Thr His Pro	Arg Leu Lys Pro Tyr	Asn Met Leu Asn	
2880	2885	2890	
gac tat gtt gaa ccc tca	atc gaa aga gaa cgt	tac aaa gag cct	8743
Asp Tyr Val Glu Pro Ser	Ile Glu Arg Glu Arg	Tyr Lys Glu Pro	
2895	2900	2905	
gtc aga gag tca ata aag	gct ttg ttg gca att	gga tgg act gtg	8788
Val Arg Glu Ser Ile Lys	Ala Leu Leu Ala Ile	Gly Trp Thr Val	
2910	2915	2920	
gag cac agt gaa gca gat	gtt cca ctc act agt	cga gga tca att	8833
Glu His Ser Glu Ala Asp	Val Pro Leu Thr Ser	Arg Gly Ser Ile	
2925	2930	2935	
cgg cga cag tcc aag cca	aat gca atg gtc gac	tct tcc act cct	8878
Arg Arg Gln Ser Lys Pro	Asn Ala Met Val Asp	Ser Ser Thr Pro	
2940	2945	2950	
ttc aac tat cat cca aat	cct att gat atg aca	aac ctg aca ttg	8923
Phe Asn Tyr His Pro Asn	Pro Ile Asp Met Thr	Asn Leu Thr Leu	
2955	2960	2965	
ggc aga gag atg caa aat	atg gct gag cgt tta	gct gaa aat gct	8968
Gly Arg Glu Met Gln Asn	Met Ala Glu Arg Leu	Ala Glu Asn Ala	
2970	2975	2980	
cat gac att tgg gct aag	aag aaa aaa gag gaa	ctc ata act tgt	9013
His Asp Ile Trp Ala Lys	Lys Lys Lys Glu Glu	Leu Ile Thr Cys	
2985	2990	2995	
ggt gga gga atc cat ccg	caa ctc gtg ccg tat	gac ttg ttg act	9058
Gly Gly Gly Ile His Pro	Gln Leu Val Pro Tyr	Asp Leu Leu Thr	
3000	3005	3010	
gat aag gaa aag aag aag	gac aga gag cga tct	caa gaa ttc ttg	9103
Asp Lys Glu Lys Lys Lys	Asp Arg Glu Arg Ser	Gln Glu Phe Leu	
3015	3020	3025	
aaa tat ctg caa tat caa	ggc tat aag ttg cac	agg cct agt cgc	9148
Lys Tyr Leu Gln Tyr Gln	Gly Tyr Lys Leu His	Arg Pro Ser Arg	
3030	3035	3040	
aca ggg ggt cca tcc gag	tcg gaa caa ttg gca	gcc caa gca act	9193
Thr Gly Gly Pro Ser Glu	Ser Glu Gln Leu Ala	Ala Gln Ala Thr	
3045	3050	3055	
ggt gag ctt aga ttt gcg	tac agc ctg ctc gag	aag ctc atc cag	9238
Gly Glu Leu Arg Phe Ala	Tyr Ser Leu Leu Glu	Lys Leu Ile Gln	
3060	3065	3070	
tac att gac aga gcc tct	atc aac atg aag ctt	ctc aaa cct tcg	9283
Tyr Ile Asp Arg Ala Ser	Ile Asn Met Lys Leu	Leu Lys Pro Ser	
3075	3080	3085	
acg aca ttc agc cgc cgc	tca agc ttt aaa act	tgc aca agg gac	9328
Thr Thr Phe Ser Arg Arg	Ser Ser Phe Lys Thr	Cys Thr Arg Asp	
3090	3095	3100	
att aaa ttt ttc tca aaa	gtc gtt cta cca ctt	gtg gag aaa tat	9373
Ile Lys Phe Phe Ser Lys	Val Val Leu Pro Leu	Val Glu Lys Tyr	
3105	3110	3115	
ttc agc aca cat agg aat	tac ttt att gct gta	gcg acc gca tcg	9418
Phe Ser Thr His Arg Asn	Tyr Phe Ile Ala Val	Ala Thr Ala Ser	
3120	3125	3130	
aat aat att gga gca gca	tcg ttg aaa gaa aaa	gaa atg gta gct	9463
Asn Asn Ile Gly Ala Ala	Ser Leu Lys Glu Lys	Glu Met Val Ala	
3135	3140	3145	

agt	cta	ttc	tgc	aaa	ctt	gca	aac	ttg	cta	aga	tct	cga	ttg	gct	9508
Ser	Leu	Phe	Cys	Lys	Leu	Ala	Asn	Leu	Leu	Arg	Ser	Arg	Leu	Ala	
3150					3155					3160					
gct	ttt	ggg	gct	gat	gtt	cga	att	tct	gtg	aaa	tgt	tta	caa	gtg	9553
Ala	Phe	Gly	Ala	Asp	Val	Arg	Ile	Ser	Val	Lys	Cys	Leu	Gln	Val	
3165					3170					3175					
ctc	gta	aaa	gga	att	gat	gca	aaa	tcg	ctg	gta	aag	aat	tgt	cca	9598
Leu	Val	Lys	Gly	Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	
3180					3185					3190					
gaa	ttt	atc	aga	aca	tcg	atg	cta	acg	ttt	ttc	aat	aat	aca	gct	9643
Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn	Asn	Thr	Ala	
3195					3200					3205					
gat	gac	ttg	gga	cac	aca	att	caa	aac	tta	caa	gag	ggc	aaa	tac	9688
Asp	Asp	Leu	Gly	His	Thr	Ile	Gln	Asn	Leu	Gln	Glu	Gly	Lys	Tyr	
3210					3215					3220					
agt	cat	ctg	cgt	gga	gca	cat	ctg	aaa	acg	tct	acc	tcg	cta	ttc	9733
Ser	His	Leu	Arg	Gly	Ala	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Phe	
3225					3230					3235					
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 35 40 45

Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Thr Cys Val Phe
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 Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80
 Ala Ala Gly Ser Glu Glu Gly Lys Gly Thr Gly Ser Gly His Arg Thr
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 Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Gln Asn Ser Asp Met
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 Tyr Leu Ala Cys Ser Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
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 Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
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 Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
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 Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
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 Thr Thr Lys Glu Asn Asp Leu Ser Ile Val Asn Ala Ser Phe His Val
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 Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
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 Gln Asn Ile Val Val Tyr Glu Gly Gly Ser Val Met Ser Gln Ala Arg
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 Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly Phe
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 His Asn Leu Trp Ala Lys Glu Arg Ile Gln Gln Gly Trp Thr Tyr Gly
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Tyr Cys	Lys Val Asp Glu Ala	Ile Lys Lys Ala Asn	Arg Asp Thr
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Ala Ser	Glu Thr Val Arg Thr	Leu Leu Val Tyr Gly	Tyr Asn Leu
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Ser Arg	Leu Arg Gln Thr His	Phe Arg Thr Tyr Arg	Ala Glu Lys
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Met Asn	Arg Ala Val Thr Tyr	Trp Tyr Thr Lys Asp	His Pro Ile
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Phe Glu	Asn Thr Glu Asp Tyr	Ala Asp Ser Arg Ile	Asp Val Thr
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His Asn	Leu Phe Glu Ser Met	Glu Lys Ala Asn Trp	Glu Phe Leu
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Arg Leu	Ser Leu Pro Val Ile	Cys His Ser Ser Phe	Ile Glu Glu
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Gln Ile	Met Lys	Ser Gly	Leu	Ser Met	Ser Asp	Ile	Lys Gly	Leu	
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His Arg	Gly Tyr	Ser Glu	Asp	Ala Val	Glu Ala	Asp	Glu Met	Met	
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Leu Tyr	Ala Ile Arg Ser Asp	Tyr Met Ser Gly Pro	Leu Arg Gln
1805	1810	1815	
Gly Phe	Tyr Asp Leu Leu Ile	Ala Leu His Leu Glu	Ser His Ala
1820	1825	1830	
Tyr Thr	Met Glu Val Cys Lys	Asn Glu Phe Ile Ile	Pro Ile Gly
1835	1840	1845	
Gln Glu	Leu Lys Asp Val Tyr	Glu Asp Pro Glu Met	Cys His Ser
1850	1855	1860	
Leu Arg	Ser Leu Lys Thr Glu	Ser Val Leu Pro Thr	Met Lys Met
1865	1870	1875	
Thr Asp	Lys Ala Asp Glu Pro	Ser Pro Ser Glu Val	Val Asp Asn
1880	1885	1890	
Ile Arg	Ser Leu Tyr Ser Pro	Gln Phe Pro Leu Asp	Val Val Arg
1895	1900	1905	

Asp Phe Val Met Ala Ala Leu	Asp Glu Ala Val Gln Ile Asn Gln
1910	1915 1920
Leu His Asn Arg Asp Pro Val	Gly Gly Ser Asn Glu Asn Tyr Phe
1925	1930 1935
Leu Pro Leu Leu Lys Leu Val	Asp Arg Leu Leu Leu Val Gly Met
1940	1945 1950
Leu Arg Asp Gly Asp Val Met	Lys Leu Leu Ile Met Phe Ser Pro
1955	1960 1965
Glu Thr Trp Asp Thr Ala Phe	Glu Lys Asp Gly Lys Asp Glu His
1970	1975 1980
Arg Lys Gly Leu Leu Thr Met	Lys Met Ala Glu Gly Ala Lys Leu
1985	1990 1995
Gln Met Cys Tyr Leu Leu His	His Leu Tyr Asp Ile Gln Leu Arg
2000	2005 2010
His Arg Val Glu Ala Ile Ile	Ser Phe Ser Val Asp Phe Val Gly
2015	2020 2025
Asp Leu Gln Ser Asp Gln Leu	Arg Arg Tyr Ile Glu Ile Lys Gln
2030	2035 2040
Ser Asp Leu Pro Ser Ala Ile	Ala Ala Lys Lys Thr Arg Glu Phe
2045	2050 2055
Arg Cys Pro Pro Arg Glu Gln	Met Asn Ala Ile Leu Gly Phe Lys
2060	2065 2070
Asn Leu Glu Glu Gly Asp Ile	Glu Asn Cys Pro Cys Gly Asp Glu
2075	2080 2085
Leu Arg Glu Arg Leu Asn Ser	Phe His Glu Lys Leu Met His Lys
2090	2095 2100
Val Ser Leu Leu Ala Leu Gln	Glu Pro Ser Glu Glu Glu Ala Ser
2105	2110 2115
Ala Glu Glu Val Lys Lys Pro	Asn Ala Leu Asn Arg Leu Tyr Asn
2120	2125 2130
Phe Ile Asn Ala Val Lys Glu	Leu Glu Glu Thr Pro Gln Ile Glu
2135	2140 2145
Glu Glu Pro Glu Lys Lys Thr	Pro Glu Glu Ile Phe Arg Lys Val
2150	2155 2160
Leu Ile Ser Thr Ile Val Lys	Trp Ala Glu Glu Thr Gln Ile Glu
2165	2170 2175
Ser Pro Lys Leu Val Arg Glu	Met Phe Ser Leu Leu Val Arg Gln
2180	2185 2190
Tyr Asp Thr Val Gly Glu Leu	Ile Arg Ala Leu Gly Lys Thr Tyr
2195	2200 2205

Val	Ile	Asn	Ser	Lys	Thr	Lys	Asp	Asp	Ala	Ala	Leu	Met	Trp	Val
2210						2215					2220			
Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln
2225						2230					2235			
Glu	Glu	Glu	Gly	Leu	Met	Arg	Glu	Arg	Leu	Trp	Lys	Leu	Val	Asn
2240						2245					2250			
Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Val	Leu	Arg
2255						2260					2265			
Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly	Arg
2270						2275					2280			
Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Gln	Ala	Gly	Gln	Glu	Gly
2285						2290					2295			
Glu	Pro	Val	Ala	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met	Val	Val
2300						2305					2310			
Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Ser	Arg	Gln
2315						2320					2325			
Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Ala	Phe	Leu	Leu	Glu	Asn
2330						2335					2340			
Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr	Pro
2345						2350					2355			
Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu	Ala
2360						2365					2370			
Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Ile	Tyr	Leu
2375						2380					2385			
Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Ile	Glu	Lys	Gly
2390						2395					2400			
Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg	Tyr	Leu
2405						2410					2415			
Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser	Val	Glu
2420						2425					2430			
Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg	Pro	Gly
2435						2440					2445			
Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu	Leu	Arg
2450						2455					2460			
Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile	Ala	Asp	Arg
2465						2470					2475			
Arg	Lys	Val	Met	Asp	Glu	Pro	Glu	Gly	Thr	Thr	Met	Val	Met	His
2480						2485					2490			
Phe	Glu	His	Pro	Leu	Pro	Glu	Ser	Asp	Asp	Asp	Glu	Asp	Tyr	Ile
2495						2500					2505			

Asp Thr Gly Ala Ala Ile Leu Ala Phe Tyr Cys Thr Leu Val Asp	2510	2515	2520
Leu Leu Gly Arg Cys Ala Pro Asp Ser Ser Val Ile Ala Gln Gly	2525	2530	2535
Lys Asn Glu Ser Leu Arg Ala Arg Ala Ile Leu Arg Ser Leu Val	2540	2545	2550
Pro Leu Glu Asp Leu Gln Gly Val Leu Ser Leu Lys Phe Thr Leu	2555	2560	2565
Gln Asn Pro Ala Ala Gly Glu Glu Arg Pro Lys Ser Asp Met Pro	2570	2575	2580
Ser Gly Leu Ile Pro Gly His Lys Gln Ser Val Val Leu Phe Leu	2585	2590	2595
Glu Arg Val Tyr Gly Ile Glu Thr Gln Glu Leu Phe Phe Arg Leu	2600	2605	2610
Leu Glu Glu Ala Phe Leu Pro Asp Leu Arg Ala Ala Thr Met Leu	2615	2620	2625
Asp Arg Asn Asp Gly Ser Glu Ser Asp Met Ala Leu Ala Met Asn	2630	2635	2640
Arg Tyr Ile Gly Asn Ser Ile Leu Pro Leu Leu Ile Thr His Ser	2645	2650	2655
Lys Phe Tyr Asn Glu Ala Asp Asn Tyr Ala Ser Leu Leu Asp Ala	2660	2665	2670
Thr Leu His Thr Val Tyr Arg Leu Ser Lys Asn Arg Met Leu Thr	2675	2680	2685
Lys Gly Gln Arg Glu Ala Val Ser Asp Phe Leu Val Ala Leu Thr	2690	2695	2700
Ser Ser Met Gln Pro Ser Met Leu Leu Lys Leu Leu Arg Lys Leu	2705	2710	2715
Thr Val Asp Val Ser Lys Leu Thr Glu Tyr Thr Thr Val Ala Leu	2720	2725	2730
Arg Leu Leu Thr Leu His Tyr Asp Arg Cys Ala Lys Tyr Tyr Gly	2735	2740	2745
Ser Thr Gly Gly Gln Gly Leu Tyr Gly Ser Ser Ser Asp Glu Glu	2750	2755	2760
Lys Arg Leu Thr Met Met Leu Phe Ser Asn Ile Phe Asp Ser Leu	2765	2770	2775
Ser Lys Met Asp Tyr Asp Pro Glu Leu Phe Gly Lys Ala Leu Pro	2780	2785	2790
Cys Leu Thr Ala Ile Gly Cys Ala Leu Pro Pro Asp Tyr Ser Leu	2795	2800	2805

Ser	Lys	Asn	Tyr	Asp	Asp	Glu	Leu	Tyr	Gly	Ala	Arg	Asp	Ser	Gln
2810						2815					2820			
Ala	Gly	Pro	Ser	Asp	Gly	Pro	Tyr	Asn	Pro	Gln	Pro	Ile	Asn	Thr
2825						2830					2835			
His	Ser	Val	Val	Leu	Asn	Asn	Asp	Leu	Asn	Thr	Ile	Val	Gln	Lys
2840						2845					2850			
Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Lys	Leu	Glu
2855						2860					2865			
Asn	Gly	Trp	Thr	Tyr	Gly	Asp	Gln	Trp	Ser	Asp	Ser	Gln	Lys	Thr
2870						2875					2880			
His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Asn	Asp	Tyr	Val	Glu
2885						2890					2895			
Pro	Ser	Ile	Glu	Arg	Glu	Arg	Tyr	Lys	Glu	Pro	Val	Arg	Glu	Ser
2900						2905					2910			
Ile	Lys	Ala	Leu	Leu	Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu
2915						2920					2925			
Ala	Asp	Val	Pro	Leu	Thr	Ser	Arg	Gly	Ser	Ile	Arg	Arg	Gln	Ser
2930						2935					2940			
Lys	Pro	Asn	Ala	Met	Val	Asp	Ser	Ser	Thr	Pro	Phe	Asn	Tyr	His
2945						2950					2955			
Pro	Asn	Pro	Ile	Asp	Met	Thr	Asn	Leu	Thr	Leu	Gly	Arg	Glu	Met
2960						2965					2970			
Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ala	His	Asp	Ile	Trp
2975						2980					2985			
Ala	Lys	Lys	Lys	Lys	Glu	Glu	Leu	Ile	Thr	Cys	Gly	Gly	Gly	Ile
2990						2995					3000			
His	Pro	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys
3005						3010					3015			
Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Leu	Gln
3020						3025					3030			
Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Ser	Arg	Thr	Gly	Gly	Pro
3035						3040					3045			
Ser	Glu	Ser	Glu	Gln	Leu	Ala	Ala	Gln	Ala	Thr	Gly	Glu	Leu	Arg
3050						3055					3060			
Phe	Ala	Tyr	Ser	Leu	Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Ile	Asp	Arg
3065						3070					3075			
Ala	Ser	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser
3080						3085					3090			
Arg	Arg	Ser	Ser	Phe	Lys	Thr	Cys	Thr	Arg	Asp	Ile	Lys	Phe	Phe
3095						3100					3105			

Ser	Lys	Val	Val	Leu	Pro	Leu	Val	Glu	Lys	Tyr	Phe	Ser	Thr	His
3110						3115					3120			
Arg	Asn	Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Ser	Asn	Asn	Ile	Gly
3125						3130					3135			
Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu	Met	Val	Ala	Ser	Leu	Phe	Cys
3140						3145					3150			
Lys	Leu	Ala	Asn	Leu	Leu	Arg	Ser	Arg	Leu	Ala	Ala	Phe	Gly	Ala
3155						3160					3165			
Asp	Val	Arg	Ile	Ser	Val	Lys	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly
3170						3175					3180			
Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg
3185						3190					3195			
Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn	Asn	Thr	Ala	Asp	Asp	Leu	Gly
3200						3205					3210			
His	Thr	Ile	Gln	Asn	Leu	Gln	Glu	Gly	Lys	Tyr	Ser	His	Leu	Arg
3215						3220					3225			
Gly	Ala	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Phe	Tyr	Ile	Asn	Asp
3230						3235					3240			
Val	Ile	Leu	Pro	Val	Leu	Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala
3245						3250					3255			
Cys	Glu	Tyr	Gly	Ser	Asp	Leu	Val	Leu	Asp	Glu	Ile	Gln	Val	Ala
3260						3265					3270			
Ser	Tyr	Lys	Met	Leu	Gly	Ser	Leu	Tyr	Thr	Leu	Gly	Ile	Asp	Val
3275						3280					3285			
Thr	Leu	Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Asp	Arg
3290						3295					3300			
His	Arg	Pro	Gln	Leu	Gly	Arg	Cys	Leu	Gly	Ala	Tyr	Ala	Ser	Thr
3305						3310					3315			
Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln
3320						3325					3330			
Phe	Ser	Leu	Val	Asn	Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln
3335						3340					3345			
Asp	Ile	Leu	Ser	Arg	Met	Glu	Ser	Thr	Met	Pro	Thr	Leu	Asp	Asn
3350						3355					3360			
Ile	Leu	Ser	Glu	Val	Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	His
3365						3370					3375			
Asn	Asp	Ala	Pro	His	Ile	Ile	Asp	Val	Ile	Met	Pro	Met	Leu	Cys
3380						3385					3390			
Ser	Tyr	Leu	Pro	Val	Trp	Trp	Asn	Gln	Gly	Pro	Asp	Asn	Val	Ala
3395						3400					3405			

Leu Thr	Ala Gly Asn Tyr Val	Thr Thr Val Thr Ser	Glu His Met
3410	3415	3420	
Asn Gln	Leu Leu Lys Asn Val	Leu Lys Met Ile Lys	Lys Asn Ile
3425	3430	3435	
Gly Asn	Glu Ser Ala Pro Trp	Met Thr Arg Ile Ala	Ala Tyr Thr
3440	3445	3450	
Gln Gln	Ile Ile Ile Asn Ser	Ser Glu Glu Leu Leu	Lys Asp Pro
3455	3460	3465	
Phe Leu	Pro Leu Ala Glu Arg	Val Lys Lys Arg Thr	Asp Ala Met
3470	3475	3480	
Phe His	Lys Glu Glu Ser Leu	Arg Gly Phe Ile Lys	Ser Ala Ser
3485	3490	3495	
Asp Asp	Thr Ser Gln Ile Glu	Ala Gln Ile Gln Glu	Asp Trp Gln
3500	3505	3510	
Leu Leu	Val Arg Asp Ile Tyr	Ser Phe Tyr Pro Leu	Leu Ile Lys
3515	3520	3525	
Tyr Val	Asp Leu Gln Arg Asn	His Trp Leu Arg Asn	Asn Ile Ser
3530	3535	3540	
Glu Ala	Glu Asp Leu Tyr Asn	His Val Ala Glu Ile	Phe Asn Thr
3545	3550	3555	
Trp Ser	Lys Ser Gln Tyr Phe	Leu Lys Glu Glu Gln	Asn Phe Ile
3560	3565	3570	
Ser Ala	Asn Glu Ile Asp Asn	Met Val Leu Ile Met	Pro Thr Ala
3575	3580	3585	
Thr Arg	Arg Ser Ala Val Val	Ser Asp Ser Ala Ala	Pro Pro Gly
3590	3595	3600	
Gly Ser	Gly Lys Lys Lys Lys	Lys Asn Arg Glu Lys	Lys Arg Asp
3605	3610	3615	
Lys Asp	Lys Glu Leu Gln Ala	Ser Leu Met Val Ala	Cys Leu Lys
3620	3625	3630	
Arg Leu	Leu Pro Val Gly Leu	Asn Leu Phe Ala Gly	Arg Glu Gln
3635	3640	3645	
Glu Leu	Val Gln His Cys Lys	Asp Arg Phe Leu Lys	Lys Met Gln
3650	3655	3660	
Asp Tyr	Glu Ile Val Glu Phe	Ala Lys Ile Gln Leu	Thr Leu Pro
3665	3670	3675	
Asp Lys	Leu Asp Pro Gly Asp	Glu Met Ser Trp Gln	His Tyr Leu
3680	3685	3690	
Tyr Ser	Thr Leu Gly Ser Lys	Lys Glu Ile Thr Glu	Gly Gly Lys
3695	3700	3705	

Pro Glu	Gln Ile Asp Ala Val	Val Asp Arg Ile Val	Ala Met Ala
3710	3715	3720	
Lys Val	Leu Phe Gly Leu His	Met Ile Asp His Pro	Gln Leu Gln
3725	3730	3735	
Ser Lys	Ala Ser Tyr Arg Ser	Val Val Ser Thr Gln	Arg Lys Arg
3740	3745	3750	
Ala Val	Ile Ala Cys Phe Arg	Gln Leu Ser Leu His	Ala Leu Pro
3755	3760	3765	
Arg His	Lys Ala Ile Asn Ile	Phe Ala Arg Ser Tyr	Tyr Glu Leu
3770	3775	3780	
Trp Leu	Thr Glu Glu Asn Val	Gly Thr Glu Val Leu	Ile Glu Asp
3785	3790	3795	
Leu Thr	Gln Ser Phe Glu Asp	Ala Glu Leu Lys Lys	Thr Asp Glu
3800	3805	3810	
Glu Val	Asp Glu Gly Lys Ser	Asp Pro Leu Thr Gln	Leu Val Thr
3815	3820	3825	
Thr Phe	Cys Arg Gly Ala Met	Thr Glu Arg Ser Gly	Ala Leu Gln
3830	3835	3840	
Glu Asp	Pro Leu Tyr Met Ser	Tyr Ala Glu Ile Ala	Ala Lys Ser
3845	3850	3855	
Cys Gly	Glu Glu Glu Glu Glu	Gly Gly Asp Glu Glu	Glu Gly Gly
3860	3865	3870	
Glu Gly	Glu Glu Gln Gly Ala	Ser Ile His Glu Gln	Glu Met Glu
3875	3880	3885	
Lys Gln	Lys Leu Leu Phe His	Gln Ser Arg Leu Ala	Asn Arg Gly
3890	3895	3900	
Val Ala	Glu Met Val Leu Leu	His Ile Ser Ala Cys	Asn Gly Val
3905	3910	3915	
Pro Ser	Asp Met Val Glu Lys	Thr Leu Gln Leu Gly	Ile Ser Ile
3920	3925	3930	
Leu Arg	Gly Gly Asn Ile Asp	Ile Gln Met Gly Met	Leu Asn His
3935	3940	3945	
Leu Lys	Glu Lys Lys Asp Val	Gly Phe Phe Thr Ser	Ile Ala Gly
3950	3955	3960	
Leu Met	Asn Ser Cys Ser Val	Leu Asp Leu Asp Ala	Phe Glu Arg
3965	3970	3975	
Asn Thr	Lys Ala Glu Gly Leu	Gly Val Gly Ser Asp	Gly Ala Ala
3980	3985	3990	
Gly Glu	Lys Asn Met His Asp	Ala Glu Phe Thr Cys	Thr Leu Phe
3995	4000	4005	

Arg Phe	Ile Gln Leu Thr	Cys	Glu Gly His Asn Leu	Glu Trp Gln
4010		4015		4020
Asn Tyr	Leu Arg Thr Gln	Ala	Gly Asn Thr Thr	Thr Val Asn Val
4025		4030		4035
Val Ile	Cys Thr Val Asp	Tyr	Leu Leu Arg Leu	Gln Glu Ser Ile
4040		4045		4050
Met Asp	Phe Tyr Trp His	Tyr	Ser Ser Lys Glu	Leu Ile Asp Pro
4055		4060		4065
Ala Gly	Lys Ala Asn Phe	Phe	Lys Ala Ile Gly	Val Ala Ser Gln
4070		4075		4080
Val Phe	Asn Thr Leu Ser	Glu	Val Ile Gln Gly	Ala Cys Thr Gln
4085		4090		4095
Asn Gln	Gln Ala Leu Ala	His	Ser Lys Leu Trp	Asp Ala Val Gly
4100		4105		4110
Gly Phe	Leu Phe Leu Phe	Ser	His Met Gln Asp	Lys Leu Ser Lys
4115		4120		4125
His Ser	Ser Gln Val Asp	Leu	Leu Lys Glu Leu	Leu Asn Leu Gln
4130		4135		4140
Lys Asp	Met Ile Thr Met	Met	Leu Ser Met Leu	Glu Gly Asn Val
4145		4150		4155
Val Asn	Gly Thr Ile Gly	Lys	Gln Met Val Asp	Thr Leu Val Glu
4160		4165		4170
Ser Ala	Ser Asn Val Glu	Leu	Ile Leu Lys Tyr	Phe Asp Met Phe
4175		4180		4185
Leu Lys	Leu Lys Asp Met	Thr	Glu Ala Pro Ser	Phe Leu Glu Ile
4190		4195		4200
Asp Pro	Asn His Asp Gly	Trp	Val Leu Pro Lys	Asp Phe Lys Glu
4205		4210		4215
Lys Met	Glu Gln Gln Lys	Ser	Tyr Thr Thr Glu	Glu Ile Ser Phe
4220		4225		4230
Met Leu	Gln Cys Cys Glu	Thr	Asn His Asp Gly	Lys Val Asp Tyr
4235		4240		4245
Ile Gly	Phe Val Asp Arg	Phe	His Glu Pro Ser	Lys Glu Ile Gly
4250		4255		4260
Phe Asn	Leu Ala Val Leu	Leu	Thr Asn Leu Ser	Glu His Met Pro
4265		4270		4275
Asn Glu	Pro Arg Leu Ala	Arg	Phe Leu Glu Thr	Ala Gly Ser Val
4280		4285		4290
Leu Asn	Tyr Phe Glu Pro	Phe	Leu Gly Arg Ile	Glu Ile Met Gly
4295		4300		4305

Ser Ser	Lys Arg Ile Glu Arg	Val Tyr Phe Glu Ile	Lys Glu Ser
4310	4315	4320	
Asn Ile	Glu Gln Trp Glu Lys	Pro Gln Ile Lys Glu	Ser Lys Arg
4325	4330	4335	
Ala Phe	Phe Tyr Ser Ile Val	Thr Glu Gly Gly Asp	Lys Glu Lys
4340	4345	4350	
Leu Glu	Ala Phe Val Asn Phe	Cys Glu Asp Ala Ile	Phe Glu Met
4355	4360	4365	
Thr His	Ala Ser Gly Leu Met	Ser Val Asp Asp Asp	Ser Gly Gly
4370	4375	4380	
Gly Gly	Gly Lys Ala Ala Tyr	Thr Tyr Ile Ser Glu	Glu Asp Glu
4385	4390	4395	
Glu Lys	Asn Ala Lys Asp Pro	Ile Arg Arg Thr Ile	Gln Ala Phe
4400	4405	4410	
Lys Asp	Ala Ile Tyr Phe Ile	Leu Thr Met Leu Ser	Pro Ser Asn
4415	4420	4425	
Ile Lys	Thr Lys Ile Asn Glu	Met Gln Gln Met Ser	Val Pro Glu
4430	4435	4440	
Leu Val	Val Gly Phe Phe Lys	Ile Phe Phe Tyr Met	Phe Tyr Tyr
4445	4450	4455	
Ser Gly	Phe Ser Val Ser Val	Val Leu Arg Tyr Phe	Gly Arg Ile
4460	4465	4470	
Leu Met	Thr Leu Met Arg Gly	Pro Gln Thr Glu Glu	Pro Val Ala
4475	4480	4485	
Glu Val	Lys Lys Glu Asp Glu	Ile Met Gly Pro Ile	Arg Ala Leu
4490	4495	4500	
Pro Pro	Pro Pro Pro Asp Asn	Lys Glu Ala Ser Ser	Ser Ser Ala
4505	4510	4515	
Lys Asp	Asp Ser Gly Gln Ala	Lys Pro Ala Asp Gly	Gly Ala Thr
4520	4525	4530	
Leu Ala	Leu Thr Ala Ser Gly	Glu Glu His Lys Glu	Gly Gly Ala
4535	4540	4545	
Thr Glu	Glu Gly Ala Glu Asp	Gly Ala Lys Pro Glu	Gly Ala Glu
4550	4555	4560	
Thr Thr	Glu Gly Thr Thr Met	Thr Leu Ala Asp Leu	Leu Gly Gly
4565	4570	4575	
Glu Ala	Ala Arg Lys Glu Ala	Val Ala Arg Ala Glu	Val Ala Ala
4580	4585	4590	
Glu Gln	Gln Ala Val Met Ala	Ala Val Glu Ala Glu	Ala Lys His
4595	4600	4605	

Glu Val	Val Ser Glu Pro Ser	Ala Phe Ser Gln Ile	Asp Phe Asn
4610	4615	4620	
Arg Tyr	Thr His Arg Ala Val	Ser Phe Leu Ala Arg	Asn Phe Tyr
4625	4630	4635	
Asn Leu	Lys Tyr Val Ala Leu	Val Leu Ala Phe Cys	Ile Asn Phe
4640	4645	4650	
Ile Leu	Leu Phe Tyr Lys Val	Thr Thr Leu Gly Glu	Asp Glu Asp
4655	4660	4665	
Asp Gly	Gly Ser Gly Glu Leu	Gly Gly Gly Leu Ala	Glu Asp Leu
4670	4675	4680	
Leu Glu	Glu Leu Gly Gly Gly	Ser Gly Glu Glu Gly	Gly Gly Leu
4685	4690	4695	
Ser Gly	Gly Ile Ser Gly Gly	Glu Ser Gly Glu Asp	Gly Ser Gly
4700	4705	4710	
Glu Glu	Glu Asp Pro Ile Glu	Leu Val His Val Asn	Glu Asp Phe
4715	4720	4725	
Phe Tyr	Met Ala His Val Met	Lys Ile Ala Ala Met	Leu His Ser
4730	4735	4740	
Leu Val	Ser Leu Ala Met Leu	Ile Ala Tyr Tyr His	Leu Lys Val
4745	4750	4755	
Pro Leu	Ala Ile Phe Lys Arg	Glu Lys Glu Ile Ala	Arg Arg Leu
4760	4765	4770	
Glu Phe	Asp Gly Leu Tyr Ile	Ala Glu Gln Pro Glu	Asp Asp Asp
4775	4780	4785	
Ile Lys	Ser His Trp Asp Lys	Leu Val Ile Ser Ala	Lys Ser Phe
4790	4795	4800	
Pro Val	Asn Tyr Trp Asp Lys	Phe Val Lys Lys Lys	Val Arg Gln
4805	4810	4815	
Lys Tyr	Ser Glu Thr Tyr Asp	Phe Asp Ser Ile Ser	Thr Leu Leu
4820	4825	4830	
Gly Met	Glu Lys Thr Ser Phe	Ser Ser Gln Glu Thr	Glu Glu Gly
4835	4840	4845	
Thr Gly	Ile Ile Asn Phe Ile	Leu Asn Ile Asp Trp	Arg Tyr Gln
4850	4855	4860	
Val Trp	Lys Ala Gly Val Thr	Ile Thr Asp Asn Ala	Phe Leu Tyr
4865	4870	4875	
Ser Leu	Trp Tyr Phe Ile Phe	Ser Ile Leu Gly Asn	Phe Asn Asn
4880	4885	4890	
Phe Phe	Phe Ala Ala His Leu	Leu Asp Val Ala Val	Gly Phe Lys
4895	4900	4905	

Thr	Leu	Arg	Thr	Ile	Leu	Gln	Ser	Val	Thr	His	Asn	Gly	Lys	Gln
4910						4915					4920			
Leu	Val	Leu	Thr	Val	Met	Leu	Leu	Thr	Ile	Ile	Val	Tyr	Ile	Tyr
4925						4930					4935			
Thr	Val	Ile	Ala	Phe	Asn	Phe	Phe	Arg	Lys	Phe	Tyr	Val	Gln	Glu
4940						4945					4950			
Glu	Asp	Glu	Glu	Val	Asp	Lys	Lys	Cys	His	Asp	Met	Leu	Thr	Cys
4955						4960					4965			
Phe	Val	Phe	His	Leu	Tyr	Lys	Gly	Val	Arg	Ala	Gly	Ser	Gly	Ile
4970						4975					4980			
Gly	Asp	Glu	Ile	Glu	Pro	Pro	Asp	Gly	Asp	Asp	Tyr	Glu	Val	Tyr
4985						4990					4995			
Arg	Ile	Met	Phe	Asp	Ile	Thr	Phe	Phe	Phe	Phe	Val	Ile	Val	Ile
5000						5005					5010			
Leu	Leu	Ala	Ile	Ile	Gln	Gly	Leu	Ile	Ile	Asp	Ala	Phe	Gly	Glu
5015						5020					5025			
Leu	Arg	Asp	Gln	Leu	Glu	Ser	Val	Lys	Glu	Asp	Met	Glu	Ser	Asn
5030						5035					5040			
Cys	Phe	Ile	Cys	Gly	Ile	Gly	Lys	Asp	Tyr	Phe	Asp	Lys	Val	Pro
5045						5050					5055			
His	Gly	Phe	Asp	Thr	His	Val	Gln	Gln	Glu	His	Asn	Leu	Ala	Asn
5060						5065					5070			
Tyr	Met	Phe	Phe	Leu	Met	His	Leu	Ile	Asn	Lys	Pro	Asp	Thr	Glu
5075						5080					5085			
Tyr	Thr	Gly	Gln	Glu	Thr	Tyr	Val	Trp	Asn	Met	Tyr	Gln	Gln	Arg
5090						5095					5100			
Cys	Trp	Asp	Phe	Phe	Pro	Val	Gly	Asp	Cys	Phe	Arg	Lys	Gln	Tyr
5105						5110					5115			
Glu	Asp	Glu	Leu	Gly	Gly	Gly	Gly	Gly						
5120						5125								

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Met Ala Glu Ala Glu Gly Gly Ser Glu Gln Asp Asp Val Ser Phe Leu	
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aga acg gag gac atg gtc acg ctc tcc tgc acg gcg acg ggg gag cgt	96
Arg Thr Glu Asp Met Val Thr Leu Ser Cys Thr Ala Thr Gly Glu Arg	
20 25 30	
gtc tgc ttg gcc gcc gaa gga ttt ggc aac cgg cac tgc ttt ctc gag	144
Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu	
35 40 45	
aat att gcc gac aag aac gtg ccg ccg gat ctt tcg cag tgt gtc ttc	192
Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe	
50 55 60	
gtc atc gag cag gcg ctg tcc gtg cga gca ttg cag gag ttg gtg acg	240
Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr	
65 70 75 80	
gcg gca gga tcc gag act ggc aaa ggc acc gga tcg gga cac agg aca	288
Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr	
85 90 95	
ttg ctc tat ggc aat gcc att ttg ctg cgt cac cac aac agt gat atg	336
Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met	
100 105 110	
tac ttg gca tgt ctg tcc acc tcc tcg tcg aac gac aag ctg tcc ttc	384
Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe	
115 120 125	
gac gtg ggc ctg cag gag cac agc cag gga gag gct tgt tgg tgg acg	432
Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr	
130 135 140	
gtt cat ccg gcg agc aag cag cgc tct gag ggc gag aag gtg cgc gtc	480
Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val	
145 150 155 160	
gga gat ggt ctg atc ccg gtg tcc gtg gcc acc gaa cgt tat ttg cat	528
Gly Asp Gly Leu Ile Pro Val Ser Val Ala Thr Glu Arg Tyr Leu His	
165 170 175	
acg acc aag gag aac gaa cag tct att gta aat gcc agc ttc cat gtg	576
Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val	
180 185 190	
acc cac tgg tcc gtg cag ccc tac ggc acg ggc atc tct agg atg aag	624
Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys	
195 200 205	
tac gtg ggc tat gtc ttt ggc ggc gat gtg ctg cgt ttc ttc cat ggt	672
Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly	
210 215 220	
ggc gac gag tgc ctg acc ata ccg agt aca tgg ggt cgt gag gcg gga	720
Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Gly Arg Glu Ala Gly	

225	230	235	240	
caa aat att gtt att tac gag ggc ggc gtg gtc atg gca cag gcg agg				768
Gln Asn Ile Val Ile Tyr Glu Gly Gly Val Val Met Ala Gln Ala Arg				
	245	250	255	
tcc ctg tgg cgc ctg gaa ctc gct cga acc aag tgg gct ggt ggc ttt				816
Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly Phe				
	260	265	270	
atc aac tgg tac cac ccg atg cgc ata cgc cac ata acc act gga cgc				864
Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Ile Thr Thr Gly Arg				
	275	280	285	
tac ttg ggc gtc aac gac agc aac gaa ctg att cta gtt aag aag gag				912
Tyr Leu Gly Val Asn Asp Ser Asn Glu Leu Ile Leu Val Lys Lys Glu				
	290	295	300	
gag gct tcg att gcc acg acg act ttc tgc ctg cgg cag gaa aag gac				960
Glu Ala Ser Ile Ala Thr Thr Thr Phe Cys Leu Arg Gln Glu Lys Asp				
	305	310	315	320
gac gag aaa aag gtg ctg gag gac aag gac ctg gag gtg atc ggc tcg				1008
Asp Glu Lys Lys Val Leu Glu Asp Lys Asp Leu Glu Val Ile Gly Ser				
	325	330	335	
ccg atc atc aag tac ggc gac act acc gtc atc gtc cag cac tgc gag				1056
Pro Ile Ile Lys Tyr Gly Asp Thr Thr Val Ile Val Gln His Cys Glu				
	340	345	350	
act agc ttg tgg ctc agc tac aag agt tat gag acg aaa aag aag ggc				1104
Thr Ser Leu Trp Leu Ser Tyr Lys Ser Tyr Glu Thr Lys Lys Lys Gly				
	355	360	365	
gta gga aag gtg gag gag aag caa gcg atc ctg cac gag gag ggc aag				1152
Val Gly Lys Val Glu Glu Lys Gln Ala Ile Leu His Glu Glu Gly Lys				
	370	375	380	
atg gac gat tgt ctc gac ttc tcg cgc tcc cag gag gag gag tcc aag				1200
Met Asp Asp Cys Leu Asp Phe Ser Arg Ser Gln Glu Glu Glu Ser Lys				
	385	390	395	400
acg gct cgt gtc atc cgc aag tgc agc agc ctc ttc acc cag ttt att				1248
Thr Ala Arg Val Ile Arg Lys Cys Ser Ser Leu Phe Thr Gln Phe Ile				
	405	410	415	
aca gcc ttg gaa aca ctg cag tca aat cgc cga cac tcc att ttc ttc				1296
Thr Ala Leu Glu Thr Leu Gln Ser Asn Arg Arg His Ser Ile Phe Phe				
	420	425	430	
caa aag gtc aac ctc aac gag atg gtc atg tgc ctt gag gac ttg att				1344
Gln Lys Val Asn Leu Asn Glu Met Val Met Cys Leu Glu Asp Leu Ile				
	435	440	445	
aac tac ttt tcg caa ccc gaa gac gat atg gag cac gag gag aaa cag				1392
Asn Tyr Phe Ser Gln Pro Glu Asp Asp Met Glu His Glu Glu Lys Gln				
	450	455	460	
aac cga ttc cgt gcc ctg cgc aac cga cag gat ctg ttc cag gag gag				1440
Asn Arg Phe Arg Ala Leu Arg Asn Arg Gln Asp Leu Phe Gln Glu Glu				

465	470	475	480	
ggc gtg ctc aat ctg atc ctg gag gcc att gac aag gtc aac ata atc				1488
Gly Val Leu Asn Leu Ile Leu Glu Ala Ile Asp Lys Val Asn Ile Ile	485	490	495	
acc tcg cag ggc ttc cta gcc agc ttc ctg gcc ggc gac gag acc ggc				1536
Thr Ser Gln Gly Phe Leu Ala Ser Phe Leu Ala Gly Asp Glu Thr Gly	500	505	510	
cag agc tgg gat ctc atc tcc acc tat ttg tac caa ctc ttg gcc gcc				1584
Gln Ser Trp Asp Leu Ile Ser Thr Tyr Leu Tyr Gln Leu Leu Ala Ala	515	520	525	
atc atc aag ggc aac cac acg aac tgc gcc cag ttc gcg aac agt aac				1632
Ile Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser Asn	530	535	540	
cga ctc aac tgg cta ttc tcc cgc ctc ggt tcc cag gcc tcc agc gag				1680
Arg Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala Ser Ser Glu	545	550	555	560
ggt tcc ggc atg ttg gac gta ctt cac tgc gtg ctg atc gat tcg cca				1728
Gly Ser Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser Pro	565	570	575	
gag gca cta aac atg atg cgg gat gag cac atc aag gtg gtc atc tcc				1776
Glu Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Val Ile Ser	580	585	590	
ctg ctg gag aag cac ggc agg gac ccg aaa gtc cta gac gtt ctg tgt				1824
Leu Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu Cys	595	600	605	
tcc ttg tgc gtg ggt aat gga gtg gcg gtg cga tcc tcc cag aac aac				1872
Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn	610	615	620	
att tgc gac ttt ttg cta ccg ggc aag aat ctg ttg cta cag acg ctc				1920
Ile Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr Leu	625	630	635	640
ctg gtg gac cat gtg gcc agc atc cga ccg aac atc ttc gtg ggt cgc				1968
Leu Val Asp His Val Ala Ser Ile Arg Pro Asn Ile Phe Val Gly Arg	645	650	655	
gtg gac ggt tct tcc atg tac cag aag tgg tac ttc gag gtg acc atg				2016
Val Asp Gly Ser Ser Met Tyr Gln Lys Trp Tyr Phe Glu Val Thr Met	660	665	670	
gat cac atc gaa cag acc acg cac atg atg ccc cac ctg cgc att ggc				2064
Asp His Ile Glu Gln Thr Thr His Met Met Pro His Leu Arg Ile Gly	675	680	685	
tgg gct aat act tcc ggg tat gta ccg tat ccc gga ggc ggc aag aag				2112
Trp Ala Asn Thr Ser Gly Tyr Val Pro Tyr Pro Gly Gly Gly Lys Lys	690	695	700	
tgg ggt ggc aat gga gta ggc gat gac ctg tac tcc ttt gga ttt gat				2160
Trp Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Phe Gly Phe Asp				

705	710	715	720	
ggg gcc ttt ctt tgg acg gga ggt cgc aaa aca cta gtg gtg gac gcg				2208
Gly Ala Phe Leu Trp Thr Gly Gly Arg Lys Thr Leu Val Val Asp Ala				
	725	730	735	
ctg ccc gag gag ccc ttt atc cgt aaa ggc gat gtt att ggc gtt gcc				2256
Leu Pro Glu Glu Pro Phe Ile Arg Lys Gly Asp Val Ile Gly Val Ala				
	740	745	750	
att gac ctt tct gtg ccc atc atc acg ttt act ttt aac gga gta aaa				2304
Ile Asp Leu Ser Val Pro Ile Ile Thr Phe Thr Phe Asn Gly Val Lys				
	755	760	765	
gtg cgc ggt agc ttt agg gac ttt aac ctg gac gga atg ttc ttt ccc				2352
Val Arg Gly Ser Phe Arg Asp Phe Asn Leu Asp Gly Met Phe Phe Pro				
	770	775	780	
gtg atg agt tgc tca tca aaa cta agc tgt cgc ttc ctt ttc gga ggt				2400
Val Met Ser Cys Ser Ser Lys Leu Ser Cys Arg Phe Leu Phe Gly Gly				
	785	790	800	
gat cat ggt cgt tta aag ttt gcc ccg ccc atg gga ttc tct gcc ctc				2448
Asp His Gly Arg Leu Lys Phe Ala Pro Pro Met Gly Phe Ser Ala Leu				
	805	810	815	
gtg cag tgt ctc atg ccg cag cag atc ctc agt ctg gat cct tgc ttc				2496
Val Gln Cys Leu Met Pro Gln Gln Ile Leu Ser Leu Asp Pro Cys Phe				
	820	825	830	
tac ttt ggt aat ctt gcc aag aat gtt ttg gcc gga cca tgg ctt att				2544
Tyr Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile				
	835	840	845	
gag gac gac act gct ttt gtt ccg aag ccc gtt gat acc acg ggt gtg				2592
Glu Asp Asp Thr Ala Phe Val Pro Lys Pro Val Asp Thr Gly Val				
	850	855	860	
aca ttg cca agt tct gtg gac caa atc aag gag aag ctg gcg gag aat				2640
Thr Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn				
	865	870	875	880
atc cac gag atg tgg gct cta aac aaa atc gaa gcg ggc tgg tcg tgg				2688
Ile His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp				
	885	890	895	
ggc gag cac cga gat gac tac cac cgc atc cat cct tgc ctc acc cat				2736
Gly Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His				
	900	905	910	
ttc gag aag ctt ccg gcg gcg gaa aag cga tac gac aat caa cta gct				2784
Phe Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala				
	915	920	925	
gtg caa acg ctg aag acg att atc tcg ctg gga tac tac ata acc atg				2832
Val Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met				
	930	935	940	
gac aag cca cca gca cgc att cgc cca gtg cgc ctg ccc aac gag atc				2880
Asp Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile				

945	950	955	960	
ttc atg cag ggc aat ggc tac aag ccg gct cca ctt gac cta agc gcc				2928
Phe Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala				
	965	970	975	
gtg aca ctc acc ccc aag ttg gag gag ctt gtg gac cag ctg gcc gag				2976
Val Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu				
	980	985	990	
aac act cac aat ttg tgg gca cgg gag cgc atc cag cag ggt tgg act				3024
Asn Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp Thr				
	995	1000	1005	
tat ggt ctg aac gag gat agt gaa aac cac agg agt cca cac ttg				3069
Tyr Gly Leu Asn Glu Asp Ser Glu Asn His Arg Ser Pro His Leu				
	1010	1015	1020	
gtg cca tat gcc aaa gtg gac gag gct atc aag aag gcc aac agg				3114
Val Pro Tyr Ala Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg				
	1025	1030	1035	
gac aca gcg tcg gag aca gtg cga acg ctc ctg gtt tac gga tat				3159
Asp Thr Ala Ser Glu Thr Val Arg Thr Leu Leu Val Tyr Gly Tyr				
	1040	1045	1050	
gtc ttg gat cct ccg acg ggc gaa gga acg gag gca ctt ctg gcc				3204
Val Leu Asp Pro Pro Thr Gly Glu Gly Thr Glu Ala Leu Leu Ala				
	1055	1060	1065	
gag gca caa cgc ctc aag ttc gcc gga ttc cgg act tac agg gtg				3249
Glu Ala Gln Arg Leu Lys Phe Ala Gly Phe Arg Thr Tyr Arg Val				
	1070	1075	1080	
gag cgc aac tac gcc gtg aca tcg ggc aag tgg tac ttc gaa ttc				3294
Glu Arg Asn Tyr Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe				
	1085	1090	1095	
gag gtc ctc acg tcc gga cca atg cga gtg ggt tgg gca cgg gcc				3339
Glu Val Leu Thr Ser Gly Pro Met Arg Val Gly Trp Ala Arg Ala				
	1100	1105	1110	
gat tgc tat ccg gga gcg atg ctg ggc agc gag gac acc agt tgg				3384
Asp Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp				
	1115	1120	1125	
gcc ttc gat gga cac aat gtg acc aaa atg cac gcc gga tcc att				3429
Ala Phe Asp Gly His Asn Val Thr Lys Met His Ala Gly Ser Ile				
	1130	1135	1140	
gag cac ttc gga gtg cgg tat gag gct ggc gat gtc att ggt tgt				3474
Glu His Phe Gly Val Arg Tyr Glu Ala Gly Asp Val Ile Gly Cys				
	1145	1150	1155	
ttc atc gat gtc aag gag caa acg atc agc ttc tcg ttg aac gga				3519
Phe Ile Asp Val Lys Glu Gln Thr Ile Ser Phe Ser Leu Asn Gly				
	1160	1165	1170	
gaa ctc ctg atg gac gcg ctg ggc ggc gag acg acc ttt gcc gac				3564
Glu Leu Leu Met Asp Ala Leu Gly Gly Glu Thr Thr Phe Ala Asp				

1175	1180	1185	
gta acc gcc gag ggg gtg ggc	ttc gtg ccc gcc tgc	acc ctg gga	3609
Val Thr Ala Glu Gly Val Gly	Phe Val Pro Ala Cys	Thr Leu Gly	
1190	1195	1200	
gtg ggc cag aag gcg cgc ctc	atc tac ggc cag gac	gtg gac tca	3654
Val Gly Gln Lys Ala Arg Leu	Ile Tyr Gly Gln Asp	Val Asp Ser	
1205	1210	1215	
ctc aag ttc ttc acc act tgt	ggc ctg caa gag gga	tac gag ccg	3699
Leu Lys Phe Phe Thr Thr Cys	Gly Leu Gln Glu Gly	Tyr Glu Pro	
1220	1225	1230	
ttc tgc gtg aac atg cgc cgc	ccg gtt acc cac tgg	tac acc aag	3744
Phe Cys Val Asn Met Arg Arg	Pro Val Thr His Trp	Tyr Thr Lys	
1235	1240	1245	
gac cag ccc att ttt gag aac	acc gag gag atg ccc	gac tgc cgc	3789
Asp Gln Pro Ile Phe Glu Asn	Thr Glu Glu Met Pro	Asp Cys Arg	
1250	1255	1260	
atc gat gtc acc cgg att ccc	ggc ggc gcc gac acc	ccg ccg cac	3834
Ile Asp Val Thr Arg Ile Pro	Gly Gly Ala Asp Thr	Pro Pro His	
1265	1270	1275	
tta aag atc tcg cac aac acc	ttc gag acc atg gag	aag gcc aac	3879
Leu Lys Ile Ser His Asn Thr	Phe Glu Thr Met Glu	Lys Ala Asn	
1280	1285	1290	
tgg gag ttc ctg cgt ctt tcc	ctg ccc gtg acc tgc	atg ggt gag	3924
Trp Glu Phe Leu Arg Leu Ser	Leu Pro Val Thr Cys	Met Gly Glu	
1295	1300	1305	
ttt atc agc gaa cag gag aag	gcc aga cgc tgg gac	gag att aag	3969
Phe Ile Ser Glu Gln Glu Lys	Ala Arg Arg Trp Asp	Glu Ile Lys	
1310	1315	1320	
aac cgg cag tac cga cta atg	cgc gag gcg gag atc	gct gcc caa	4014
Asn Arg Gln Tyr Arg Leu Met	Arg Glu Ala Glu Ile	Ala Ala Gln	
1325	1330	1335	
atg cag gtc cag aca cag gcc	gcc cac atg gac cac	atg ttg aaa	4059
Met Gln Val Gln Thr Gln Ala	Ala His Met Asp His	Met Leu Lys	
1340	1345	1350	
ggg ggc ttc aat atg aac gac	atc aag ggc ttg acc	cgt aat ttc	4104
Gly Gly Phe Asn Met Asn Asp	Ile Lys Gly Leu Thr	Arg Asn Phe	
1355	1360	1365	
gat gag cac gcg gat gct gag	gca gat cac atg atg	cgc gga ccc	4149
Asp Glu His Ala Asp Ala Glu	Ala Asp His Met Met	Arg Gly Pro	
1370	1375	1380	
aac cgt ccg cct cgc aag gga	tcg ctc acc cgc aac	ata acc ttc	4194
Asn Arg Pro Pro Arg Lys Gly	Ser Leu Thr Arg Asn	Ile Thr Phe	
1385	1390	1395	
gaa aca gac atg tcc gcc gcc	ttg gac gag atg cag	cgt tcc acg	4239
Glu Thr Asp Met Ser Ala Ala	Leu Asp Glu Met Gln	Arg Ser Thr	

1400	1405	1410	
tcg gtg ctt gac atg aac ggg Ser Val Leu Asp Met Asn Gly 1415	ctg ggc gaa gag atg gat gac aag Leu Gly Glu Glu Met Asp Asp Lys 1420	1425	4284
aag aag cgc ggc cgc agc ccc Lys Lys Arg Gly Arg Ser Pro 1430	ttt aag ttc ttc tcg aag aag tcg Phe Lys Phe Phe Ser Lys Lys Ser 1435	1440	4329
cgt gat cag agc cgc gaa aag Arg Asp Gln Ser Arg Glu Lys 1445	atg ggt gct cgc acc ctg gac acc Met Gly Ala Arg Thr Leu Asp Thr 1450	1455	4374
tct ctg gag cgc cga aat acg Ser Leu Glu Arg Arg Asn Thr 1460	gtg gct cat ggt cgg aac gtg gtt Val Ala His Gly Arg Asn Val Val 1465	1470	4419
aac cag cag atg acc aca cga Asn Gln Gln Met Thr Thr Arg 1475	gct cca act ctg cgg tta aat aat Ala Pro Thr Leu Arg Leu Asn Asn 1480	1485	4464
gcc gaa atc cct ccc agc cct Ala Glu Ile Pro Pro Ser Pro 1490	gtg ccc cag gga cca aag cag ttg Val Pro Gln Gly Pro Lys Gln Leu 1495	1500	4509
agt ggc tca aat ctt ggc caa Ser Gly Ser Asn Leu Gly Gln 1505	cag ccg gtg gaa act tcg ggt gac Gln Pro Val Glu Thr Ser Gly Asp 1510	1515	4554
gag atg ttc gat gcc gag tgc Glu Met Phe Asp Ala Glu Cys 1520	ctc aag ttg atc aac gag tat ttc Leu Lys Leu Ile Asn Glu Tyr Phe 1525	1530	4599
tat gga gta aga atc ttt ccc Tyr Gly Val Arg Ile Phe Pro 1535	ggt cag gat ccc acg cac gtg tac Gly Gln Asp Pro Thr His Val Tyr 1540	1545	4644
gtc ggt tgg gtc act acg cag Val Gly Trp Val Thr Thr Gln 1550	tat cac ctg cac agc cgt gag ttt Tyr His Leu His Ser Arg Glu Phe 1555	1560	4689
aac aag aac aag gtt cgc cgt Asn Lys Asn Lys Val Arg Arg 1565	gga tca gtc tac atc gag gat gac Gly Ser Val Tyr Ile Glu Asp Asp 1570	1575	4734
tac gag atg gcc att gaa cgg Tyr Glu Met Ala Ile Glu Arg 1580	atc gac cgc cag agt tgc tat gta Ile Asp Arg Gln Ser Cys Tyr Val 1585	1590	4779
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ggc aag gga gcc tca cag ggc Gly Lys Gly Ala Ser Gln Gly 1610	atg ttc gtt ggc tgc ttc gtg gac Met Phe Val Gly Cys Phe Val Asp 1615	1620	4869
aca gcc acc ggc atc atc cgc Thr Ala Thr Gly Ile Ile Arg 1625	ttc act tgc gag ggc aag gac acc Phe Thr Cys Glu Gly Lys Asp Thr 1630		4914

1625	1630	1635	
tct cac cgc tgg atg atg gag	cca gac acc aag ctc	ttc ccg gcc	4959
Ser His Arg Trp Met Met Glu	Pro Asp Thr Lys Leu	Phe Pro Ala	
1640	1645	1650	
att ttc gtg gaa gcc acc agc	aag gag atc ctt cag	atc gag ttg	5004
Ile Phe Val Glu Ala Thr Ser	Lys Glu Ile Leu Gln	Ile Glu Leu	
1655	1660	1665	
gga cgt acc cct acc aca ttg	ccc ctt tcg gcg gcg	gta ctg ccc	5049
Gly Arg Thr Pro Thr Thr Leu	Pro Leu Ser Ala Ala	Val Leu Pro	
1670	1675	1680	
acc agt gac aag cat ata aat	cca cag tcc ccg ccg	cgt ctg aag	5094
Thr Ser Asp Lys His Ile Asn	Pro Gln Ser Pro Pro	Arg Leu Lys	
1685	1690	1695	
gtc cag tgc ctg cgt ccg cat	cag tgg gct aga gtt	cca aat act	5139
Val Gln Cys Leu Arg Pro His	Gln Trp Ala Arg Val	Pro Asn Thr	
1700	1705	1710	
gcg ctc cag gtg cat gcg ctg	aaa ctc tcc gac gtg	agg ggt tgg	5184
Ala Leu Gln Val His Ala Leu	Lys Leu Ser Asp Val	Arg Gly Trp	
1715	1720	1725	
tcc atg ttg tgc gag gac ccc	gtg tcc atg ctg gcc	ctg cgc atc	5229
Ser Met Leu Cys Glu Asp Pro	Val Ser Met Leu Ala	Leu Arg Ile	
1730	1735	1740	
cca gag gag gat cgc tgt ata	gat att ctg gag ctc	atc gag atg	5274
Pro Glu Glu Asp Arg Cys Ile	Asp Ile Leu Glu Leu	Ile Glu Met	
1745	1750	1755	
gac aag ctt ttg tcc ttc cat	gcc cac agt cta acg	ctc tat gcg	5319
Asp Lys Leu Leu Ser Phe His	Ala His Ser Leu Thr	Leu Tyr Ala	
1760	1765	1770	
gct ctt tgt tac caa tcc aat	tac aga gct gcc cat	gcc ctg tgc	5364
Ala Leu Cys Tyr Gln Ser Asn	Tyr Arg Ala Ala His	Ala Leu Cys	
1775	1780	1785	
cag cat gtg gac cag aag cag	ctg ctc tac gcc atc	cgg tcg gag	5409
Gln His Val Asp Gln Lys Gln	Leu Leu Tyr Ala Ile	Arg Ser Glu	
1790	1795	1800	
tac atg agc gga cca ctg cgg	cag ggc ttc tac gac	ctg ctg atc	5454
Tyr Met Ser Gly Pro Leu Arg	Gln Gly Phe Tyr Asp	Leu Leu Ile	
1805	1810	1815	
gcc ctg cat ctg gag tcg cat	gcc aca acc atg gag	gtg tgc aag	5499
Ala Leu His Leu Glu Ser His	Ala Thr Thr Met Glu	Val Cys Lys	
1820	1825	1830	
aac gag tac atc aca ccg ctg	gga gcc gag ctc aag	gaa ctg tac	5544
Asn Glu Tyr Ile Thr Pro Leu	Gly Ala Glu Leu Lys	Glu Leu Tyr	
1835	1840	1845	
tcc gat gag gag atg cag cac	tca ctg aga tcc ctg	gtt acg gag	5589
Ser Asp Glu Glu Met Gln His	Ser Leu Arg Ser Leu	Val Thr Glu	

1850	1855	1860	
tca gtg cgt ccg cag ctg cgg Ser Val Arg Pro Gln Leu Arg 1865	atg acg gag atc acc Met Thr Glu Ile Thr 1870	acc gaa ccg atc Thr Glu Pro Ile 1875	5634
ccc gac atc gac caa ttg tac Pro Asp Ile Asp Gln Leu Tyr 1880	tcc ccg aag ttc ccc Ser Pro Lys Phe Pro 1885	cta gaa gta Leu Glu Val 1890	5679
gtc agg cag ttt gtc atg gag Val Arg Gln Phe Val Met Glu 1895	gcg ctg aag gat gcc Ala Leu Lys Asp Ala 1900	gtc gag atc Val Glu Ile 1905	5724
aat cag gtg cac aac cgc gat Asn Gln Val His Asn Arg Asp 1910	ccc atc ggc tgg acc Pro Ile Gly Trp Thr 1915	aac gag aac Asn Glu Asn 1920	5769
ctc ttc ctc cct cta atc aag Leu Phe Leu Pro Leu Ile Lys 1925	ctc aca gac cgg cta Leu Thr Asp Arg Leu 1930	ctc ttg gtc Leu Leu Val 1935	5814
ggc gtc ctg act gac gaa gat Gly Val Leu Thr Asp Glu Asp 1940	gtc cag cgg cta ttg Val Gln Arg Leu Leu 1945	gtc atg atc Val Met Ile 1950	5859
gac ccg gag acc tgg gac caa Asp Pro Glu Thr Trp Asp Gln 1955	gcc ttc gaa aga gag Ala Phe Glu Arg Glu 1960	ggt aag gat Gly Lys Asp 1965	5904
gag cac cgc aag ggc ttg ctc Glu His Arg Lys Gly Leu Leu 1970	acc atg aag atg gcc Thr Met Lys Met Ala 1975	gag ggc gcc Glu Gly Ala 1980	5949
aag ctg cag atg cgc tac ctg Lys Leu Gln Met Arg Tyr Leu 1985	ctg cac cat ctc tac Leu His His Leu Tyr 1990	gac acc cag Asp Thr Gln 1995	5994
ctg cgc cat cga gtg gag agc Leu Arg His Arg Val Glu Ser 2000	atc atc gcg ttc tcc Ile Ile Ala Phe Ser 2005	cac gac ttc His Asp Phe 2010	6039
gtt ggc gac ctg cag acc gat Val Gly Asp Leu Gln Thr Asp 2015	cag ttg cga cgt tat Gln Leu Arg Arg Tyr 2020	atc gag atc Ile Glu Ile 2025	6084
aag caa tcc gat ttg ccc agt Lys Gln Ser Asp Leu Pro Ser 2030	gct gtt gcg gcc aaa Ala Val Ala Ala Lys 2035	aag act aaa Lys Thr Lys 2040	6129
gag ttc cgc tgt ccg ccg cgg Glu Phe Arg Cys Pro Pro Arg 2045	gag cag atg aac cag Glu Gln Met Asn Gln 2050	att ctc tgc Ile Leu Cys 2055	6174
ttc aag aac ctc gaa ccc gat Phe Lys Asn Leu Glu Pro Asp 2060	gac cag gac aac tgc Asp Gln Asp Asn Cys 2065	acc tgt ggc Thr Cys Gly 2070	6219
ctt gag ttg cgc gga cgc ttg Leu Glu Leu Arg Gly Arg Leu 2075	ggc gat ttc cac gat Gly Asp Phe His Asp 2080	tcc ctc atg Ser Leu Met 2085	6264

2075	2080	2085	
caa aaa gtg tcg ctc aat gct Gln Lys Val Ser Leu Asn Ala 2090 2095	ctc cag gag ccg gat Leu Gln Glu Pro Asp 2100	ggc gtc gag Gly Val Glu	6309
ggc aca gcg atc gag gag gta Gly Thr Ala Ile Glu Glu Val 2105 2110	aag aca gga ccc atc Lys Thr Gly Pro Ile 2115	acg aag atc Thr Lys Ile	6354
tac aac ttt att aac acc gtc Tyr Asn Phe Ile Asn Thr Val 2120 2125	aag gag ctg gag gag Lys Glu Leu Glu Glu 2130	ggc ccc aag Gly Pro Lys	6399
gag gtg gag gag ccg gag aag Glu Val Glu Glu Pro Glu Lys 2135 2140	aag aca cca gag gag Lys Thr Pro Glu Glu 2145	gtg ttc cgc Val Phe Arg	6444
aaa gtt ctc att aag acg atc Lys Val Leu Ile Lys Thr Ile 2150 2155	gtc agc tgg gcc gag Val Ser Trp Ala Glu 2160	gag tca cag Glu Ser Gln	6489
atc gag aat ccc aaa ctg gtg Ile Glu Asn Pro Lys Leu Val 2165 2170	cgc gag atg ttt agt Arg Glu Met Phe Ser 2175	ctg ctg ctg Leu Leu Leu	6534
cgg cag tac gac acc gtc gga Arg Gln Tyr Asp Thr Val Gly 2180 2185	gaa ttg gtt cgt gcc Glu Leu Val Arg Ala 2190	ctg gag aag Leu Glu Lys	6579
acg tac gtg ata aac acc cga Thr Tyr Val Ile Asn Thr Arg 2195 2200	gcc cgc gac gac gtg Ala Arg Asp Asp Val 2205	gca gag atg Ala Glu Met	6624
tgg gtg ggc ctc agc cag att Trp Val Gly Leu Ser Gln Ile 2210 2215	cgc gcc ctg ctg ccc Arg Ala Leu Leu Pro 2220	gtc cag atg Val Gln Met	6669
agc cag gaa gag gag gaa ctg Ser Gln Glu Glu Glu Glu Leu 2225 2230	atg cgc aag cgg ctg Met Arg Lys Arg Leu 2235	tgg aag ctg Trp Lys Leu	6714
gtt aac aac gcc acc ttc ttt Val Asn Asn Ala Thr Phe Phe 2240 2245	cag cac ccg gac ctc Gln His Pro Asp Leu 2250	ata cgc atc Ile Arg Ile	6759
ctg cgt gtc cac gag aac gtg Leu Arg Val His Glu Asn Val 2255 2260	atg gca gtg atg atg Met Ala Val Met Met 2265	aac aca ctc Asn Thr Leu	6804
gga cgg agg gca cag gca caa Gly Arg Arg Ala Gln Ala Gln 2270 2275	agc gat gcg ccc acc Ser Asp Ala Pro Thr 2280	cag tcg gag Gln Ser Glu	6849
gta gcc gaa gga gct ccg tcc Val Ala Glu Gly Ala Pro Ser 2285 2290	aag gag aag gac acc Lys Glu Lys Asp Thr 2295	tcc cac gaa Ser His Glu	6894
atg gtg gta gct tgc tgc cga Met Val Val Ala Cys Cys Arg 2300	ttc ctc tgc tac ttc Phe Leu Cys Tyr Phe 2305	tgt cgc act Cys Arg Thr	6939

2300	2305	2310	
ggt cgc caa aac caa aag gcc Gly Arg Gln Asn Gln Lys Ala 2315	atg ttt gat cac ttc Met Phe Asp His Phe 2320	gac ttt ctg Asp Phe Leu 2325	6984
ctg gac aac gcc aac atc ctg Leu Asp Asn Ala Asn Ile Leu 2330	ctg gca cgg cca agc Leu Ala Arg Pro Ser 2335	ctg cga gga Leu Arg Gly 2340	7029
tcc acg ccc ctc gat gtg gca Ser Thr Pro Leu Asp Val Ala 2345	tac tcg agt ttg atg Tyr Ser Ser Leu Met 2350	gag aac aca Glu Asn Thr 2355	7074
gaa ttg gct ctg gcc ctg agg Glu Leu Ala Leu Ala Leu Arg 2360	gaa cac tat cta gaa Glu His Tyr Leu Glu 2365	aag atc gcc Lys Ile Ala 2370	7119
gtc tac ctc tcg cga tgc gga Val Tyr Leu Ser Arg Cys Gly 2375	cta cag agc aac tcg Leu Gln Ser Asn Ser 2380	gag ctc gtg Glu Leu Val 2385	7164
gag aag ggc tat ccg gat ctg Glu Lys Gly Tyr Pro Asp Leu 2390	ggt tgg gat ccc gtc Gly Trp Asp Pro Val 2395	gaa ggt gag Glu Gly Glu 2400	7209
cgt tac ccg gac ttc ctg cgc Arg Tyr Pro Asp Phe Leu Arg 2405	tat tgc gtt tgg gtc Tyr Cys Val Trp Val 2410	aac ggc gag Asn Gly Glu 2415	7254
agc gtc gag gag aat gcg aac Ser Val Glu Glu Asn Ala Asn 2420	ctt gtc att cga ctt Leu Val Ile Arg Leu 2425	ctt atc cgt Leu Ile Arg 2430	7299
cgt ccg gaa tgc ttg gga ccg Arg Pro Glu Cys Leu Gly Pro 2435	gct cta aga gga gaa Ala Leu Arg Gly Glu 2440	gga gag ggt Gly Glu Gly 2445	7344
ctg ttc cgc gcc atc gtc gag Leu Phe Arg Ala Ile Val Glu 2450	gct aat cgc atg tcg Ala Asn Arg Met Ser 2455	gag cgc atc Glu Arg Ile 2460	7389
tcg gac cgc tgc aag atg cag Ser Asp Arg Cys Lys Met Gln 2465	gac gag gcc gag ggc Asp Glu Ala Glu Gly 2470	acc att gcc Thr Ile Ala 2475	7434
ggt cta aac ttc aca cat cct Gly Leu Asn Phe Thr His Pro 2480	ctg ccg gaa ggc gag Leu Pro Glu Gly Glu 2485	gag gac gag Glu Asp Glu 2490	7479
gac tat atc gat acc ggt gcc Asp Tyr Ile Asp Thr Gly Ala 2495	gcc att ctg aac ttc Ala Ile Leu Asn Phe 2500	tac tgc acc Tyr Cys Thr 2505	7524
ctt gtg gac cta ctg ggc cgc Leu Val Asp Leu Leu Gly Arg 2510	tgc gct ccg gac gct Cys Ala Pro Asp Ala 2515	tcg gtc atc Ser Val Ile 2520	7569
gag cag ggc aag aac gag tcc Glu Gln Gly Lys Asn Glu Ser 2510	ctg agg gct aga gct Leu Arg Ala Arg Ala 2515	att ctg aga Ile Leu Arg 2520	7614

2525	2530	2535	
tct ctg gtg cca ctg gag gat Ser Leu Val Pro Leu Glu Asp 2540	ttg cag ggg gtg ctc Leu Gln Gly Val Leu 2545	agc ctg aaa Ser Leu Lys 2550	7659
ttc acc ctc tca cag acg gcg Phe Thr Leu Ser Gln Thr Ala 2555	ccc ggc gag gag aag Pro Gly Glu Glu Lys 2560	ccc aaa tcg Pro Lys Ser 2565	7704
gac atg ccg tcc ggc ctg cta Asp Met Pro Ser Gly Leu Leu 2570	ccc aac aat aag cag Pro Asn Asn Lys Gln 2575	agc atc gtg Ser Ile Val 2580	7749
ctc ttc ctg gag cgc gtc tac Leu Phe Leu Glu Arg Val Tyr 2585	ggc atc gag gca cag Gly Ile Glu Ala Gln 2590	gac ctc ttc Asp Leu Phe 2595	7794
tac cgc ctg ctg gag gac gcc Tyr Arg Leu Leu Glu Asp Ala 2600	ttc ctt ccg gat ctc Phe Leu Pro Asp Leu 2605	cgc acc gcc Arg Thr Ala 2610	7839
acc att ctg gac aag agc gat Thr Ile Leu Asp Lys Ser Asp 2615	gga tcc gag agc gac Gly Ser Glu Ser Asp 2620	atg gcg ctg Met Ala Leu 2625	7884
gcc atg aac cgc tac ata ggc Ala Met Asn Arg Tyr Ile Gly 2630	aac tcg atc ctg ccg Asn Ser Ile Leu Pro 2635	ctg ctc atc Leu Leu Ile 2640	7929
aag cac tcc aag ttt tac aac Lys His Ser Lys Phe Tyr Asn 2645	gag gcc gag aac tac Glu Ala Glu Asn Tyr 2650	gcg agc ctc Ala Ser Leu 2655	7974
ttg gat gcc act ttg cac acg Leu Asp Ala Thr Leu His Thr 2660	gtc tac cgg ctg tcc Val Tyr Arg Leu Ser 2665	aag aac cgt Lys Asn Arg 2670	8019
atg ctg acc aag ggg caa cgc Met Leu Thr Lys Gly Gln Arg 2675	gag gct gtt tcc gac Glu Ala Val Ser Asp 2680	ttc ctg gtg Phe Leu Val 2685	8064
gcc ctc aca tcc caa atg caa Ala Leu Thr Ser Gln Met Gln 2690	cct gcc atg ctg ctc Pro Ala Met Leu Leu 2695	aag ctg ctg Lys Leu Leu 2700	8109
cgc aag ttg act gtg gat gtg Arg Lys Leu Thr Val Asp Val 2705	tcc aag ctg tcc gag Ser Lys Leu Ser Glu 2710	tac acc acc Tyr Thr Thr 2715	8154
gtg gcc ctc cgg ctt ctc acc Val Ala Leu Arg Leu Leu Thr 2720	ctg cac ttc gat cgc Leu His Phe Asp Arg 2725	tgc gcc aaa Cys Ala Lys 2730	8199
tac tac ggc tca act caa ggc Tyr Tyr Gly Ser Thr Gln Gly 2735	cag ggc tcc tat gga Gln Gly Ser Tyr Gly 2740	gcc tca tcg Ala Ser Ser 2745	8244
gac gag gag aag cgc ctg acg Asp Glu Glu Lys Arg Leu Thr 2750	atg ctg ctg ttc tcg Met Leu Leu Phe Ser 2755	aac att ttt Asn Ile Phe 2760	8289

2750	2755	2760	
gac tcg ctc agc aac atg Asp Ser Leu Ser Asn Met 2765	gac tat gac ccg gaa ctg Asp Tyr Asp Pro Glu Leu 2770	ctg ttc ggt aag Leu Phe Gly Lys 2775	8334
gca ctg ccc tgt ctg atc Ala Leu Pro Cys Leu Ile 2780	gcc atc ggc tgc gcc ctg Ala Ile Gly Cys Ala Leu 2785	cca ccg gac Pro Pro Asp 2790	8379
tac agc ctg tcc aag aac Tyr Ser Leu Ser Lys Asn 2795	acg gac gag gac tac Thr Asp Glu Asp Tyr 2800	tac ggc cgc cag Tyr Gly Arg Gln 2805	8424
atg ggc gca ccg gat cag Met Gly Ala Pro Asp Gln 2810	ccg cag tac atg ccc Pro Gln Tyr Met Pro 2815	aat ccg atc gac Asn Pro Ile Asp 2820	8469
acc aac aac gtg cat ctg Thr Asn Asn Val His Leu 2825	gac aac gac ctc aac Asp Asn Asp Leu Asn 2830	tcg ctg gtc cag Ser Leu Val Gln 2835	8514
aag ttc agc gag cac tac Lys Phe Ser Glu His Tyr 2840	cac gat gcg tgg gcc His Asp Ala Trp Ala 2845	agt cgg cgg ttg Ser Arg Arg Leu 2850	8559
gag ggt ggc tgg acc tac Glu Gly Gly Trp Thr Tyr 2855	gga gac atc cga tcc Gly Asp Ile Arg Ser 2860	gat aat gat cgc Asp Asn Asp Arg 2865	8604
aag cat cct cgc ctg aag Lys His Pro Arg Leu Lys 2870	ccc tac aac atg ctc Pro Tyr Asn Met Leu 2875	agt gaa tac gaa Ser Glu Tyr Glu 2880	8649
cgc gag cgg tac cgg gat Arg Glu Arg Tyr Arg Asp 2885	ccg gtg cga gag tgc Pro Val Arg Glu Cys 2890	ctg aag ggt ctg Leu Lys Gly Leu 2895	8694
ctg gcc atc gga tgg acc Leu Ala Ile Gly Trp Thr 2900	gtg gag cac tcc gag Val Glu His Ser Glu 2905	gtg gag gtg ccg Val Glu Val Pro 2910	8739
ctg aat cat cgc gga tca Leu Asn His Arg Gly Ser 2915	acg cgg cgt cag tcg Thr Arg Arg Gln Ser 2920	aag cct caa att Lys Pro Gln Ile 2925	8784
aac gag ggc agc ccg ttc Asn Glu Gly Ser Pro Phe 2930	aac tat aac ccg cac Asn Tyr Asn Pro His 2935	ccg gtg gac atg Pro Val Asp Met 2940	8829
agc aac ctg acc ctg agc Ser Asn Leu Thr Leu Ser 2945	agg gag atg cag aac Arg Glu Met Gln Asn 2950	atg gct gag cgc Met Ala Glu Arg 2955	8874
ctg gcg gag aat tcc cac Leu Ala Glu Asn Ser His 2960	gac atc tgg gcc aag Asp Ile Trp Ala Lys 2965	aag aag aag Lys Lys Asn Glu 2970	8919
gag ctc aac ggc tgc ggt Glu Leu Asn Gly Cys Gly 2975	ggc gtt atc cat ccg Gly Val Ile His Pro 2980	caa ctg gtg cca Gln Leu Val Pro 2985	8964

2975	2980	2985	
tat gat ctt ctg acc gac Tyr Asp Leu Leu Thr Asp 2990	aaa gag aag aag gat Lys Glu Lys Lys Lys Asp 2995	cgc gag cgc Arg Glu Arg 3000	9009
tcg cag gag ttc ctt aag Ser Gln Glu Phe Leu Lys 3005	tac atg caa tac cag ggt Tyr Met Gln Tyr Gln Gly 3010	tac aag ctg Tyr Lys Leu 3015	9054
cac aag cca tca aag gga His Lys Pro Ser Lys Gly 3020	gga gct gtg gag gag ggc Gly Ala Val Glu Glu Gly 3025	ggc gcc acc Gly Ala Thr 3030	9099
cag gct gcc gtt gaa ctg Gln Ala Ala Val Glu Leu 3035	cgt ttc tcg tac tcc cta Arg Phe Ser Tyr Ser Leu 3040	ctg gaa aag Leu Glu Lys 3045	9144
ctc ata cag tat ctg gat Leu Ile Gln Tyr Leu Asp 3050	aga gcc acc atc aac atg Arg Ala Thr Ile Asn Met 3055	aaa ctg cta Lys Leu Leu 3060	9189
aag cca tcg acc acg ttc Lys Pro Ser Thr Thr Phe 3065	agt cga cgc tca tcc ttt Ser Arg Arg Ser Ser Phe 3070	aag acg gcc Lys Thr Ala 3075	9234
acc cgg gac atc aag ttc Thr Arg Asp Ile Lys Phe 3080	ttc tcg aag gtg gtg ctg Phe Ser Lys Val Val Leu 3085	cct cta atg Pro Leu Met 3090	9279
gag aag tac ttc tca acg Glu Lys Tyr Phe Ser Thr 3095	cat cgc aac tac ttc atc His Arg Asn Tyr Phe Ile 3100	gcc att gcc Ala Ile Ala 3105	9324
acg gca acc aat aat att Thr Ala Thr Asn Asn Ile 3110	gga gca gcc tcg ctc aag Gly Ala Ala Ser Leu Lys 3115	gag aag gaa Glu Lys Glu 3120	9369
atg gtg gcc tcg atc ttc Met Val Ala Ser Ile Phe 3125	tgc aag ctg gcc gct cta Cys Lys Leu Ala Ala Leu 3130	ctg cgt aac Leu Arg Asn 3135	9414
cgg ctg agt gca ttt gga Arg Leu Ser Ala Phe Gly 3140	ccg gat gtc cgc atc aca Pro Asp Val Arg Ile Thr 3145	gta cgg tgc Val Arg Cys 3150	9459
ctc cag gtc ctg gtc aag Leu Gln Val Leu Val Lys 3155	ggc att gat gca cgc acc Gly Ile Asp Ala Arg Thr 3160	ctg acc aag Leu Thr Lys 3165	9504
aat tgt ccc gag ttt att Asn Cys Pro Glu Phe Ile 3170	cgc acc tcc atg ctg acc Arg Thr Ser Met Leu Thr 3175	ttc ttc aac Phe Phe Asn 3180	9549
cag aca tcc gat gac ttg Gln Thr Ser Asp Asp Leu 3185	ggc aac acg atc ctt aac Gly Asn Thr Ile Leu Asn 3190	ctg cag gat Leu Gln Asp 3195	9594
ggc aag tac agt cac ctg Gly Lys Tyr Ser His Leu 3195	aga ggc act cac ctg aaa Arg Gly Thr His Leu Lys 3200	acc tcc aca Thr Ser Thr 3205	9639

3200	3205	3210	
tcg ttg gga tat gta aac cag Ser Leu Gly Tyr Val Asn Gln 3215 3220	gtg gtt ttg ccg gtg Val Val Leu Pro Val 3225	ctt act gcc Leu Thr Ala 3225	9684
atg ttt gat cat ctg gca gcc Met Phe Asp His Leu Ala Ala 3230 3235	tgc gac tat ggc agc Cys Asp Tyr Gly Ser 3240	gat ttg ctt Asp Leu Leu 3240	9729
ctg gac gag att cag gtg gct Leu Asp Glu Ile Gln Val Ala 3245 3250	tcc tac aag atc ctc Ser Tyr Lys Ile Leu 3255	gct gca ctg Ala Ala Leu 3255	9774
tat cat ttg ggt acc gat ggc Tyr His Leu Gly Thr Asp Gly 3260 3265	acc ctg acg cat gac Thr Leu Thr His Asp 3270	agg aag tat Arg Lys Tyr 3270	9819
ctt aag acc gag att gag agg Leu Lys Thr Glu Ile Glu Arg 3275 3280	cat aga ccc gct ctg His Arg Pro Ala Leu 3285	ggc tcc tgt Gly Ser Cys 3285	9864
ctg gga gct tac agc tcc tgc Leu Gly Ala Tyr Ser Ser Cys 3290 3295	ttt ccg gtg gcc ttc Phe Pro Val Ala Phe 3300	ttg gag ccc Leu Glu Pro 3300	9909
cac ctt aac aag cac aac cag His Leu Asn Lys His Asn Gln 3305 3310	tac tcg ctg ctc aac Tyr Ser Leu Leu Asn 3315	cgt att gcg Arg Ile Ala 3315	9954
gat cac tca ctg gag gcg cag Asp His Ser Leu Glu Ala Gln 3320 3325	gac att atg gtc aag Asp Ile Met Val Lys 3330	atg gag agc Met Glu Ser 3330	9999
tgt atg cca aat cta gag acc Cys Met Pro Asn Leu Glu Thr 3335 3340	att ctc gcc gag gtc Ile Leu Ala Glu Val 3345	gac cag ttt Asp Gln Phe 3345	10044
gtg gag tcg gac aag aca tac Val Glu Ser Asp Lys Thr Tyr 3350 3355	aat gat gcg cct cat Asn Asp Ala Pro His 3360	att atc gac Ile Ile Asp 3360	10089
gtg atc ctg ccg ctg ctt tgc Val Ile Leu Pro Leu Leu Cys 3365 3370	gcc tat cta ccg ttt Ala Tyr Leu Pro Phe 3375	tgg tgg tcc Trp Trp Ser 3375	10134
cag gga ccg gat aat gtc agt Gln Gly Pro Asp Asn Val Ser 3380 3385	ccc acc agt ggc aac Pro Thr Ser Gly Asn 3390	cac gtg acc His Val Thr 3390	10179
atg gtc aca gcc gat cac atg Met Val Thr Ala Asp His Met 3395 3400	aat ccg ttg ctg cga Asn Pro Leu Leu Arg 3405	aat gtg ctt Asn Val Leu 3405	10224
aaa atg atc aag aag aac att Lys Met Ile Lys Lys Asn Ile 3410 3415	ggc aac gat aac gcc Gly Asn Asp Asn Ala 3420	cct tgg atg Pro Trp Met 3420	10269
act cgc att gcc gcc tat acg Thr Arg Ile Ala Ala Tyr Thr 3425 3430	cag cag att atc atc Gln Gln Ile Ile Ile 3435	aat acg tcg Asn Thr Ser 3435	10314

3425	3430	3435	
gag gag ctg ctc aag gat ccg	ttc ttg ccg ctg gcg	gag cgg gtg	10359
Glu Glu Leu Leu Lys Asp Pro	Phe Leu Pro Leu Ala	Glu Arg Val	
3440	3445	3450	
aag aag cgc act gag aac atg	ctg cac aag gag gac	agc atg cga	10404
Lys Lys Arg Thr Glu Asn Met	Leu His Lys Glu Asp	Ser Met Arg	
3455	3460	3465	
gga ttc atc aag tcg gcc acg	gac gac act tcg cag	gtg gag acc	10449
Gly Phe Ile Lys Ser Ala Thr	Asp Asp Thr Ser Gln	Val Glu Thr	
3470	3475	3480	
cag ctg cag gag gac tgg aat	ctg cta gtg cga gac	ata tac tcg	10494
Gln Leu Gln Glu Asp Trp Asn	Leu Leu Val Arg Asp	Ile Tyr Ser	
3485	3490	3495	
ttc tat ccc ctg ctc atc aag	tac gtg gat ctg cag	cga aac cac	10539
Phe Tyr Pro Leu Leu Ile Lys	Tyr Val Asp Leu Gln	Arg Asn His	
3500	3505	3510	
tgg ctg aag gac aac ata ccg	gag gcc gag gag ctc	tac aac cat	10584
Trp Leu Lys Asp Asn Ile Pro	Glu Ala Glu Glu Leu	Tyr Asn His	
3515	3520	3525	
gtg gca gag atc ttc aat ata	tgg tct aag agc cag	tac ttc ctt	10629
Val Ala Glu Ile Phe Asn Ile	Trp Ser Lys Ser Gln	Tyr Phe Leu	
3530	3535	3540	
aag gag gag cag aac ttc atc	tct gcc aat gag atc	gac aac atg	10674
Lys Glu Glu Gln Asn Phe Ile	Ser Ala Asn Glu Ile	Asp Asn Met	
3545	3550	3555	
gcc ttg atc atg cca act gca	acc agg agg tcg gcc	atc tcg gaa	10719
Ala Leu Ile Met Pro Thr Ala	Thr Arg Arg Ser Ala	Ile Ser Glu	
3560	3565	3570	
ggt gct cct gct gtg ggt ggc	aag gta aag aag aag	aag aag aac	10764
Gly Ala Pro Ala Val Gly Gly	Lys Val Lys Lys Lys	Lys Lys Asn	
3575	3580	3585	
agg gac aag aag cgc gac aag	gac aag gag gtg cag	gcc agt cta	10809
Arg Asp Lys Lys Arg Asp Lys	Asp Lys Glu Val Gln	Ala Ser Leu	
3590	3595	3600	
atg gtg gcc tgc ctg aaa cgc	ctc cta ccc gtt gga	ctg aat ctg	10854
Met Val Ala Cys Leu Lys Arg	Leu Leu Pro Val Gly	Leu Asn Leu	
3605	3610	3615	
ttc gcg ggt cga gag cag gaa	ctg gtg cag cac tgc	aag gat cgg	10899
Phe Ala Gly Arg Glu Gln Glu	Leu Val Gln His Cys	Lys Asp Arg	
3620	3625	3630	
tac ctg aag aag atg ccc gag	tac gat gtg atc gag	ttc gcc cgc	10944
Tyr Leu Lys Lys Met Pro Glu	Tyr Asp Val Ile Glu	Phe Ala Arg	
3635	3640	3645	
aac cag ctg acc ctg ccg gat	aag ctg gac ccg tcg	gac gag atg	10989
Asn Gln Leu Thr Leu Pro Asp	Lys Leu Asp Pro Ser	Asp Glu Met	

3650	3655	3660	
tcc tgg cag cat tac ctt tac Ser Trp Gln His Tyr Leu Tyr 3665	tca aag ctg ggc aag Ser Lys Leu Gly Lys 3670	acg gag gaa Thr Glu Glu 3675	11034
ccg gtg gac gaa cag gcg ctg Pro Val Asp Glu Gln Ala Leu 3680	gag aag gcc aat gtt Glu Lys Ala Asn Val 3685	aac tcc aac Asn Ser Asn 3690	11079
gag aag ggc aag gac aaa acc Glu Lys Gly Lys Asp Lys Thr 3695	cag gag aca gtg gat Gln Glu Thr Val Asp 3700	cgc atc gtg Arg Ile Val 3705	11124
gcg atg gcc aag gtt ctg ttt Ala Met Ala Lys Val Leu Phe 3710	ggc ctg cac atg atc Gly Leu His Met Ile 3715	gac cat cca Asp His Pro 3720	11169
caa cag cag agc aag aat gtc Gln Gln Gln Ser Lys Asn Val 3725	tac agg agc gtt gtg Tyr Arg Ser Val Val 3730	tcg atc caa Ser Ile Gln 3735	11214
agg aag cgt gcc gta atc gca Arg Lys Arg Ala Val Ile Ala 3740	tgc ttc cgt cag aca Cys Phe Arg Gln Thr 3745	tcg ctg cat Ser Leu His 3750	11259
tct cta ccc aga cat cgg gcc Ser Leu Pro Arg His Arg Ala 3755	tgc aac atc ttc gca Cys Asn Ile Phe Ala 3760	cga tcg tac Arg Ser Tyr 3765	11304
tac gag cag tgg ctg cag gag Tyr Glu Gln Trp Leu Gln Glu 3770	gag aac gtg ggc caa Glu Asn Val Gly Gln 3775	gag gtg atg Glu Val Met 3780	11349
gtc gaa gat ctg acg cag acg Val Glu Asp Leu Thr Gln Thr 3785	ttc gag gac tcc gag Phe Glu Asp Ser Glu 3790	aaa tcc aag Lys Ser Lys 3795	11394
aag gag ggc gag gag acg gac Lys Glu Gly Glu Glu Thr Asp 3800	agc aag ccg gat ccg Ser Lys Pro Asp Pro 3805	cta acc caa Leu Thr Gln 3810	11439
ctg gtt acc act ttc tgc cgc Leu Val Thr Thr Phe Cys Arg 3815	ggc gcc atg acg gaa Gly Ala Met Thr Glu 3820	cgc agc ggt Arg Ser Gly 3825	11484
gcc ctc cag gag gat ctg ctc Ala Leu Gln Glu Asp Leu Leu 3830	tac atg tcc tat gcc Tyr Met Ser Tyr Ala 3835	cag atc gcg Gln Ile Ala 3840	11529
gcc aag tcc acg ggc aag gag Ala Lys Ser Thr Gly Lys Glu 3845	gag gag gaa ggc ggc Glu Glu Glu Gly Gly 3850	gac gaa gaa Asp Glu Glu 3855	11574
ggc ggt gag ggt ggc gaa gag Gly Gly Glu Gly Gly Glu Glu 3860	gcc gaa ggc acc agc Ala Glu Gly Thr Ser 3865	atc cat gaa Ile His Glu 3870	11619
caa gag atg gag aag cag aag Gln Glu Met Glu Lys Gln Lys	ctg ctc ttc cat cag Leu Leu Phe His Gln	gca cgt ctc Ala Arg Leu	11664

3875	3880	3885	
tcc aat cgt ggc gtt gcc gaa	atg gtg ctg ttg cac	gtt tcc gcc	11709
Ser Asn Arg Gly Val Ala Glu	Met Val Leu Leu His	Val Ser Ala	
3890	3895	3900	
tcc aaa ggt ata cct tcg gag	atg gta atg acg aca	ctc aat ctc	11754
Ser Lys Gly Ile Pro Ser Glu	Met Val Met Thr	Leu Asn Leu	
3905	3910	3915	
ggc atc gcc att ttg cgc ggc	ggc aac atc gac atc	caa atg ggc	11799
Gly Ile Ala Ile Leu Arg Gly	Gly Asn Ile Asp Ile	Gln Met Gly	
3920	3925	3930	
atg ctg aac cac ttg aag gaa	aag aag gac gtt ggc	ttc ttt acc	11844
Met Leu Asn His Leu Lys Glu	Lys Lys Asp Val Gly	Phe Phe Thr	
3935	3940	3945	
tcc atc gcc gga ctg atg aac	tcc tgc agt gta ctg	gac ctg gac	11889
Ser Ile Ala Gly Leu Met Asn	Ser Cys Ser Val Leu	Asp Leu Asp	
3950	3955	3960	
gcc ttt gag cga aac acc aaa	gca gag ggt ctt ggt	gta ggt tcc	11934
Ala Phe Glu Arg Asn Thr Lys	Ala Glu Gly Leu Gly	Val Gly Ser	
3965	3970	3975	
gaa ggc gcc gcg ggc gag aag	aac atg cac gac gcg	gag ttc acc	11979
Glu Gly Ala Ala Gly Glu Lys	Asn Met His Asp Ala	Glu Phe Thr	
3980	3985	3990	
tgt gcg ctg ttc cgg ttc atc	cag ctg acc tgc gag	ggc cac aac	12024
Cys Ala Leu Phe Arg Phe Ile	Gln Leu Thr Cys Glu	Gly His Asn	
3995	4000	4005	
ttg gaa tgg caa aac tat ttg	agg acc cag gcg ggt	aac acc acc	12069
Leu Glu Trp Gln Asn Tyr Leu	Arg Thr Gln Ala Gly	Asn Thr Thr	
4010	4015	4020	
acc gtg aac gtg gtc atc tgt	act gtg gat tat ttg	ctt cgt ctg	12114
Thr Val Asn Val Val Ile Cys	Thr Val Asp Tyr Leu	Leu Arg Leu	
4025	4030	4035	
caa gag tcc atc atg gac ttc	tac tgg cac tac tcc	agc aaa gag	12159
Gln Glu Ser Ile Met Asp Phe	Tyr Trp His Tyr Ser	Ser Lys Glu	
4040	4045	4050	
atc atc gat ccc gct gga aag	gcc aac ttc ttc aag	gcc atc gaa	12204
Ile Ile Asp Pro Ala Gly Lys	Ala Asn Phe Phe Lys	Ala Ile Glu	
4055	4060	4065	
gtg gct agc caa gta ttt aac	acc ctc act gaa gtc	atc cag ggt	12249
Val Ala Ser Gln Val Phe Asn	Thr Leu Thr Glu Val	Ile Gln Gly	
4070	4075	4080	
cct tgt acc ctc aat cag cag	gcc ttg gca cac tcg	agg ttg tgg	12294
Pro Cys Thr Leu Asn Gln Gln	Ala Leu Ala His Ser	Arg Leu Trp	
4085	4090	4095	
gat gca gtt ggt ggc ttc ctc	ttc ctg ttt tcc cac	atg cag gac	12339
Asp Ala Val Gly Gly Phe Leu	Phe Leu Phe Ser His	Met Gln Asp	

4100	4105	4110	
aag ctg tca aag cac tcc agc Lys Leu Ser Lys His Ser Ser 4115	caa gtt gat ctg ctc Gln Val Asp Leu Leu 4120	aag gaa ctg Lys Glu Leu 4125	12384
ctg aat ctg caa aag gac atg Leu Asn Leu Gln Lys Asp Met 4130	atc acc atg atg ctt Ile Thr Met Met 4135	tcc atg ctg Ser Met Leu 4140	12429
gaa gga aat gtt gtt aac ggc Glu Gly Asn Val Val Asn Gly 4145	act att ggc aag cag Thr Ile Gly Lys Gln 4150	atg gtg gac Met Val Asp 4155	12474
acg ctg gtg gag tct gcc agc Thr Leu Val Glu Ser Ala Ser 4160	aat gtg gag ctg att Asn Val Glu Leu Ile 4165	ctt aag tac Leu Lys Tyr 4170	12519
ttc gac atg ttc ctg aag ctc Phe Asp Met Phe Leu Lys Leu 4175	gcc gac ctt atc gaa Ala Asp Leu Ile Glu 4180	tcg ccc agc Ser Pro Ser 4185	12564
ttc cac gaa gtg gac atg aag Phe His Glu Val Asp Met Lys 4190	aac gag ggt tgg gtg Asn Glu Gly Trp Val 4195	acc ccc aaa Thr Pro Lys 4200	12609
gac ttt agg gaa aag atg gag Asp Phe Arg Glu Lys Met Glu 4205	caa tcc aag aac tac Gln Ser Lys Asn Tyr 4210	aca ccg gaa Thr Pro Glu 4215	12654
gaa atg gat ttc ctt ttg gcc Glu Met Asp Phe Leu Leu Ala 4220	tgc tgc gag cgc aac Cys Cys Glu Arg Asn 4225	cac gag ggc His Glu Gly 4230	12699
aag atc gat tac cgg gcc ttc Lys Ile Asp Tyr Arg Ala Phe 4235	gtg gag cac ttc cac Val Glu His Phe His 4240	gaa cca tca Glu Pro Ser 4245	12744
aag gag atc ggt ttc aac ctg Lys Glu Ile Gly Phe Asn Leu 4250	gct gtg ctc ctg acc Ala Val Leu Leu Thr 4255	aac ctc agc Asn Leu Ser 4260	12789
gaa cac atg cca aac gaa ccg Glu His Met Pro Asn Glu Pro 4265	cgc ctg gcg cgc ttc Arg Leu Ala Arg Phe 4270	ctg gag acc Leu Glu Thr 4275	12834
gcc ggc tcg gtg ctc aac tac Ala Gly Ser Val Leu Asn Tyr 4280	ttc gag ccc ttc ctg Phe Glu Pro Phe Leu 4285	ggc cgc atc Gly Arg Ile 4290	12879
gag att ctc ggc agc tcc aag Glu Ile Leu Gly Ser Ser Lys 4295	cgc atc gag cgc gtt Arg Ile Glu Arg Val 4300	tac ttt gag Tyr Phe Glu 4305	12924
atc aag gac tcg aac atc gaa Ile Lys Asp Ser Asn Ile Glu 4310	cag tgg gag aag ccc Gln Trp Glu Lys Pro 4315	cag att cgc Gln Ile Arg 4320	12969
gag tcc aag cgt gcc ttc ttt Glu Ser Lys Arg Ala Phe Phe 4330	tat tcc atc gtc acc Tyr Ser Ile Val Thr 4335	gaa ggt ggc Glu Gly Gly 4340	13014

4325	4330	4335	
gac aag gag aaa ctg gag gcc Asp Lys Glu Lys Leu Glu Ala 4340	ttt gtg aac ttc tgc gag gac gcc Phe Val Asn Phe Cys Glu Asp Ala 4345		13059
atc ttt gag atg acc cac gcc Ile Phe Glu Met Thr His Ala 4355	tcg gga ctt atg gcc acc gat gat Ser Gly Leu Met Ala Thr Asp Asp 4360		13104
ggc ggt ggc aat gtg aag cgg Gly Gly Gly Asn Val Lys Arg 4370	gac act gcc tat agt tcc tat atg Asp Thr Ala Tyr Ser Ser Tyr Met 4375		13149
agc gag gaa gag gag gag cga Ser Glu Glu Glu Glu Glu Arg 4385	gcc gct cgt gat ccc atc cgc cgc Ala Ala Arg Asp Pro Ile Arg Arg 4390		13194
acc atc acc gcc gtc aaa gaa Thr Ile Thr Ala Val Lys Glu 4400	gga ctc aag ttc gga gtg cac atg Gly Leu Lys Phe Gly Val His Met 4405		13239
ctt agt ccg gcg aac atc aag Leu Ser Pro Ala Asn Ile Lys 4415	cat cag atc gga gtg atg cag acc His Gln Ile Gly Val Met Gln Thr 4420		13284
aaa tcc ata cca gaa ctc ata Lys Ser Ile Pro Glu Leu Ile 4430	gtc ggc ttt ttc aag atc atc ttc Val Gly Phe Phe Lys Ile Ile Phe 4435		13329
tat ata ttt tac tat acc gga Tyr Ile Phe Tyr Tyr Thr Gly 4445	tat gca cac ttc tgc gtg gtg cgt Tyr Ala His Phe Cys Val Val Arg 4450		13374
tac ata ttc ggc atc cta ctg Tyr Ile Phe Gly Ile Leu Leu 4460	aac ctg atg cga gga cct gct cca Asn Leu Met Arg Gly Pro Ala Pro 4465		13419
gag cag gag gag gaa ccg gta Glu Gln Glu Glu Glu Pro Val 4475	gtg gag gag gaa acg ttt gga aga Val Glu Glu Glu Thr Phe Gly Arg 4480		13464
gca ctg cca ccg ctg tcg ctt Ala Leu Pro Pro Leu Ser Leu 4490	gaa gaa cca ccg ggc acg gtg caa Glu Glu Pro Pro Gly Thr Val Gln 4495		13509
gcc ttt ggg ctg gac atc aac Ala Phe Gly Leu Asp Ile Asn 4505	aag gag gag aac ggc atg tac aag Lys Glu Glu Asn Gly Met Tyr Lys 4510		13554
gtg gtg gtg cac gaa tct cca Val Val Val His Glu Ser Pro 4520	gcc aat tcc tcg atg gag gag ggc Ala Asn Ser Ser Met Glu Glu Gly 4525		13599
gga gaa tcc agt ccc gag gac Gly Glu Ser Ser Pro Glu Asp 4535	gga gca gct gcc agc ggc gaa ttg Gly Ala Ala Ala Ser Gly Glu Leu 4540		13644
gtc gaa ggt gaa cca cac cag Val Glu Gly Glu Pro His Gln 4545	ggg ccc att tcc att gtg gat ctg Gly Pro Ile Ser Ile Val Asp Leu 4550		13689

4550	4555	4560	
ctg ggt gga gag gct gca aag Leu Gly Gly Glu Ala Ala Lys 4565	aag gcg gca cag gag Lys Ala Ala Gln Glu 4570	cgg cag gag Arg Gln Glu 4575	13734
gcg caa aag gct cag gag gcc Ala Gln Lys Ala Gln Glu Ala 4580	gct atg gcc tcc atc Ala Met Ala Ser Ile 4585	gag gcg gaa Glu Ala Glu 4590	13779
gcc aag aag tcg tca tct gcg Ala Lys Lys Ser Ser Ser Ala 4595	cct cag gag act cca Pro Gln Glu Thr Pro 4600	gct gtt cac Ala Val His 4605	13824
cag atc gac ttt tct cag tac Gln Ile Asp Phe Ser Gln Tyr 4610	acc cat cgc gcc gtt Thr His Arg Ala Val 4615	agc ttc ctc Ser Phe Leu 4620	13869
gcc aga aac ttc tac aac ctc Ala Arg Asn Phe Tyr Asn Leu 4625	aag tat gtg gcc ttg Lys Tyr Val Ala Leu 4630	gtg ctg gct Val Leu Ala 4635	13914
ttc agc att aac ttc atg ctg Phe Ser Ile Asn Phe Met Leu 4640	ctc ttc tac aaa gtc Leu Phe Tyr Lys Val 4645	acc tcg ttt Thr Ser Phe 4650	13959
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tcc ggg ccg gga gga ggt gcg Ser Gly Pro Gly Gly Gly Ala 4670	gac atc acg ggc tct Asp Ile Thr Gly Ser 4675	ggg ttt ggc Gly Phe Gly 4680	14049
gga tca ggg gac gga gga tcg Gly Ser Gly Asp Gly Gly Ser 4685	ggc gat ggc gaa atg Gly Asp Gly Glu Met 4690	gag gac gag Glu Asp Glu 4695	14094
ata ccg gaa ctt gtg cac gtg Ile Pro Glu Leu Val His Val 4700	gac gaa gac ttc ttc Asp Glu Asp Phe Phe 4705	tac atg gaa Tyr Met Glu 4710	14139
cac gtt ctc cgc att gcg gca His Val Leu Arg Ile Ala Ala 4715	tgt ctg cac tca ctt Cys Leu His Ser Leu 4720	gtc tcc ctg Val Ser Leu 4725	14184
gcc atg ttg att gcc tac tac Ala Met Leu Ile Ala Tyr Tyr 4730	cac ctc aag gtt cca His Leu Lys Val Pro 4735	ttg gcc atc Leu Ala Ile 4740	14229
ttc aag ccg gaa aaa gag att Phe Lys Arg Glu Lys Glu Ile 4745	gcc cgc cgg ctg gag Ala Arg Arg Leu Glu 4750	ttc gag gga Phe Glu Gly 4755	14274
ttg ttc att gca gag cag ccg Leu Phe Ile Ala Glu Gln Pro 4760	gag gat gac gac ttc Glu Asp Asp Asp Phe 4765	aag tcg cac Lys Ser His 4770	14319
tgg gac aag ctg gta att tcg Trp Asp Lys Leu Val Ile Ser 4775	gcg aaa agt ttc ccg Ala Lys Ser Phe Pro 4780	gtg aac tac Val Asn Tyr 4785	14364

4775	4780	4785	
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Trp Asp Lys Phe Val Lys Lys	Lys Val Arg Gln Lys	Tyr Ser Glu	
4790	4795	4800	
acc tac gac ttt gat tcg atc	tct aat ctg ctg ggc	atg gag aag	14454
Thr Tyr Asp Phe Asp Ser Ile	Ser Asn Leu Leu Gly	Met Glu Lys	
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agc acg ttc gcg gct cag gag	agc gag gaa acg ggc	atc ttc aag	14499
Ser Thr Phe Ala Ala Gln Glu	Ser Glu Glu Thr Gly	Ile Phe Lys	
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Tyr Ile Met Asn Ile Asp Trp	Arg Tyr Gln Val Trp	Lys Ala Gly	
4835	4840	4845	
gtc acc ttc acg gac aac gcc	ttc ctc tac tcg ctg	tgg tac ttc	14589
Val Thr Phe Thr Asp Asn Ala	Phe Leu Tyr Ser Leu	Trp Tyr Phe	
4850	4855	4860	
agc ttc tcg gtg atg ggt aac	ttc aac aac ttc ttc	ttc gcc gcc	14634
Ser Phe Ser Val Met Gly Asn	Phe Asn Asn Phe Phe	Phe Ala Ala	
4865	4870	4875	
cat ctg ctc gat gtg gcc gtg	ggc ttc aag acc ctg	cgc acc atc	14679
His Leu Leu Asp Val Ala Val	Gly Phe Lys Thr Leu	Arg Thr Ile	
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Leu Gln Ser Val Thr His Asn	Gly Lys Gln Leu Val	Leu Thr Val	
4895	4900	4905	
atg ctg ctt acc atc ata gtg	tac atc tac act gtg	atc gcg ttc	14769
Met Leu Leu Thr Ile Ile Val	Tyr Ile Tyr Thr Val	Ile Ala Phe	
4910	4915	4920	
aac ttc ttc agg aag ttc tac	atc cag gag gag gac	gag gag gtg	14814
Asn Phe Phe Arg Lys Phe Tyr	Ile Gln Glu Glu Asp	Glu Glu Val	
4925	4930	4935	
gac aaa aag tgc cac gac atg	ttg acc tgc ttc gtg	ttc cat ctg	14859
Asp Lys Lys Cys His Asp Met	Leu Thr Cys Phe Val	Phe His Leu	
4940	4945	4950	
tac aag ggt gcg aga gcg ggc	ggg gga ata ggc gac	gag atc ggg	14904
Tyr Lys Gly Ala Arg Ala Gly	Gly Gly Ile Gly Asp	Glu Ile Gly	
4955	4960	4965	
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Asp Pro Asp Gly Asp Asp Tyr	Glu Val Tyr Arg Ile	Ile Phe Asp	
4970	4975	4980	
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Ile Thr Phe Phe Phe Phe Val	Ile Ile Ile Leu Leu	Ala Ile Ile	
4985	4990	4995	
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Gln Gly Leu Ile Ile Asp Ala	Phe Gly Glu Leu Arg	Asp Gln Leu	

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Glu Ser Val Lys Asp Asn Met	Glu Ser Asn Cys Phe	Ile Cys Gly	
5015	5020	5025	
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Met Gly Lys Asp Phe Phe Asp	Ile Val Pro His Gly	Phe Asp Thr	
5030	5035	5040	
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His Val Gln Lys Glu His Asn	Leu Ala Asn Tyr Met	Phe Phe Leu	
5045	5050	5055	
atg cat ttg att aac aag ccg	gac acg gag tat acc	ggc cag gag	15219
Met His Leu Ile Asn Lys Pro	Asp Thr Glu Tyr Thr	Gly Gln Glu	
5060	5065	5070	
acg tac gtg tgg aac atg tac	cag cag cgc agc tgg	gac ttc ttc	15264
Thr Tyr Val Trp Asn Met Tyr	Gln Gln Arg Ser Trp	Asp Phe Phe	
5075	5080	5085	
cca gtg gga gac tgc ttc cgc	aag caa tac gag gat	gag ctt tcc	15309
Pro Val Gly Asp Cys Phe Arg	Lys Gln Tyr Glu Asp	Glu Leu Ser	
5090	5095	5100	
ggc gga ggc ggc ggc ggc	taaataactg cggattcgcc	gcgtctgatt	15357
Gly Gly Gly Gly Gly Gly			
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Arg Thr Glu Asp Met Val Thr Leu Ser Cys Thr Ala Thr Gly Glu Arg			
20 25 30			

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35 40 45
Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
50 55 60
Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
65 70 75 80
Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
85 90 95
Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
100 105 110
Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
115 120 125
Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
130 135 140
Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
145 150 155 160
Gly Asp Gly Leu Ile Pro Val Ser Val Ala Thr Glu Arg Tyr Leu His
165 170 175
Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
180 185 190
Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
195 200 205
Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
210 215 220
Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Gly Arg Glu Ala Gly
225 230 235 240
Gln Asn Ile Val Ile Tyr Glu Gly Gly Val Val Met Ala Gln Ala Arg
245 250 255
Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly Phe
260 265 270
Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Ile Thr Thr Gly Arg
275 280 285
Tyr Leu Gly Val Asn Asp Ser Asn Glu Leu Ile Leu Val Lys Lys Glu
290 295 300
Glu Ala Ser Ile Ala Thr Thr Thr Phe Cys Leu Arg Gln Glu Lys Asp
305 310 315 320
Asp Glu Lys Lys Val Leu Glu Asp Lys Asp Leu Glu Val Ile Gly Ser
325 330 335
Pro Ile Ile Lys Tyr Gly Asp Thr Thr Val Ile Val Gln His Cys Glu
340 345 350

Thr Ser Leu Trp Leu Ser Tyr Lys Ser Tyr Glu Thr Lys Lys Lys Gly
 355 360 365
 Val Gly Lys Val Glu Glu Lys Gln Ala Ile Leu His Glu Glu Gly Lys
 370 375 380
 Met Asp Asp Cys Leu Asp Phe Ser Arg Ser Gln Glu Glu Glu Ser Lys
 385 390 395 400
 Thr Ala Arg Val Ile Arg Lys Cys Ser Ser Leu Phe Thr Gln Phe Ile
 405 410 415
 Thr Ala Leu Glu Thr Leu Gln Ser Asn Arg Arg His Ser Ile Phe Phe
 420 425 430
 Gln Lys Val Asn Leu Asn Glu Met Val Met Cys Leu Glu Asp Leu Ile
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 Asn Tyr Phe Ser Gln Pro Glu Asp Asp Met Glu His Glu Glu Lys Gln
 450 455 460
 Asn Arg Phe Arg Ala Leu Arg Asn Arg Gln Asp Leu Phe Gln Glu Glu
 465 470 475 480
 Gly Val Leu Asn Leu Ile Leu Glu Ala Ile Asp Lys Val Asn Ile Ile
 485 490 495
 Thr Ser Gln Gly Phe Leu Ala Ser Phe Leu Ala Gly Asp Glu Thr Gly
 500 505 510
 Gln Ser Trp Asp Leu Ile Ser Thr Tyr Leu Tyr Gln Leu Leu Ala Ala
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 Ile Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser Asn
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 580 585 590
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 Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn
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 645 650 655
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 690 695 700
 Trp Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Phe Gly Phe Asp
 705 710 715 720
 Gly Ala Phe Leu Trp Thr Gly Gly Arg Lys Thr Leu Val Val Asp Ala
 725 730 735
 Leu Pro Glu Glu Pro Phe Ile Arg Lys Gly Asp Val Ile Gly Val Ala
 740 745 750
 Ile Asp Leu Ser Val Pro Ile Ile Thr Phe Thr Phe Asn Gly Val Lys
 755 760 765
 Val Arg Gly Ser Phe Arg Asp Phe Asn Leu Asp Gly Met Phe Phe Pro
 770 775 780
 Val Met Ser Cys Ser Ser Lys Leu Ser Cys Arg Phe Leu Phe Gly Gly
 785 790 795 800
 Asp His Gly Arg Leu Lys Phe Ala Pro Pro Met Gly Phe Ser Ala Leu
 805 810 815
 Val Gln Cys Leu Met Pro Gln Gln Ile Leu Ser Leu Asp Pro Cys Phe
 820 825 830
 Tyr Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile
 835 840 845
 Glu Asp Asp Thr Ala Phe Val Pro Lys Pro Val Asp Thr Thr Gly Val
 850 855 860
 Thr Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn
 865 870 875 880
 Ile His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp
 885 890 895
 Gly Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His
 900 905 910
 Phe Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala
 915 920 925
 Val Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met
 930 935 940
 Asp Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile
 945 950 955 960
 Phe Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala
 965 970 975
 Val Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu
 980 985 990

Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	Ile	Gln	Gln	Gly	Trp	Thr	995	1000	1005
Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Glu	Asn	His	Arg	Ser	Pro	His	Leu		1010	1015	1020
Val	Pro	Tyr	Ala	Lys	Val	Asp	Glu	Ala	Ile	Lys	Lys	Ala	Asn	Arg		1025	1030	1035
Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr	Leu	Leu	Val	Tyr	Gly	Tyr		1040	1045	1050
Val	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gly	Thr	Glu	Ala	Leu	Leu	Ala		1055	1060	1065
Glu	Ala	Gln	Arg	Leu	Lys	Phe	Ala	Gly	Phe	Arg	Thr	Tyr	Arg	Val		1070	1075	1080
Glu	Arg	Asn	Tyr	Ala	Val	Thr	Ser	Gly	Lys	Trp	Tyr	Phe	Glu	Phe		1085	1090	1095
Glu	Val	Leu	Thr	Ser	Gly	Pro	Met	Arg	Val	Gly	Trp	Ala	Arg	Ala		1100	1105	1110
Asp	Cys	Tyr	Pro	Gly	Ala	Met	Leu	Gly	Ser	Glu	Asp	Thr	Ser	Trp		1115	1120	1125
Ala	Phe	Asp	Gly	His	Asn	Val	Thr	Lys	Met	His	Ala	Gly	Ser	Ile		1130	1135	1140
Glu	His	Phe	Gly	Val	Arg	Tyr	Glu	Ala	Gly	Asp	Val	Ile	Gly	Cys		1145	1150	1155
Phe	Ile	Asp	Val	Lys	Glu	Gln	Thr	Ile	Ser	Phe	Ser	Leu	Asn	Gly		1160	1165	1170
Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Thr	Phe	Ala	Asp		1175	1180	1185
Val	Thr	Ala	Glu	Gly	Val	Gly	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly		1190	1195	1200
Val	Gly	Gln	Lys	Ala	Arg	Leu	Ile	Tyr	Gly	Gln	Asp	Val	Asp	Ser		1205	1210	1215
Leu	Lys	Phe	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro		1220	1225	1230
Phe	Cys	Val	Asn	Met	Arg	Arg	Pro	Val	Thr	His	Trp	Tyr	Thr	Lys		1235	1240	1245
Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Glu	Met	Pro	Asp	Cys	Arg		1250	1255	1260
Ile	Asp	Val	Thr	Arg	Ile	Pro	Gly	Gly	Ala	Asp	Thr	Pro	Pro	His		1265	1270	1275
Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn		1280	1285	1290

Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Thr	Cys	Met	Gly	Glu
1295						1300					1305			
Phe	Ile	Ser	Glu	Gln	Glu	Lys	Ala	Arg	Arg	Trp	Asp	Glu	Ile	Lys
1310						1315					1320			
Asn	Arg	Gln	Tyr	Arg	Leu	Met	Arg	Glu	Ala	Glu	Ile	Ala	Ala	Gln
1325						1330					1335			
Met	Gln	Val	Gln	Thr	Gln	Ala	Ala	His	Met	Asp	His	Met	Leu	Lys
1340						1345					1350			
Gly	Gly	Phe	Asn	Met	Asn	Asp	Ile	Lys	Gly	Leu	Thr	Arg	Asn	Phe
1355						1360					1365			
Asp	Glu	His	Ala	Asp	Ala	Glu	Ala	Asp	His	Met	Met	Arg	Gly	Pro
1370						1375					1380			
Asn	Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Thr	Arg	Asn	Ile	Thr	Phe
1385						1390					1395			
Glu	Thr	Asp	Met	Ser	Ala	Ala	Leu	Asp	Glu	Met	Gln	Arg	Ser	Thr
1400						1405					1410			
Ser	Val	Leu	Asp	Met	Asn	Gly	Leu	Gly	Glu	Glu	Met	Asp	Asp	Lys
1415						1420					1425			
Lys	Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Ser	Lys	Lys	Ser
1430						1435					1440			
Arg	Asp	Gln	Ser	Arg	Glu	Lys	Met	Gly	Ala	Arg	Thr	Leu	Asp	Thr
1445						1450					1455			
Ser	Leu	Glu	Arg	Arg	Asn	Thr	Val	Ala	His	Gly	Arg	Asn	Val	Val
1460						1465					1470			
Asn	Gln	Gln	Met	Thr	Thr	Arg	Ala	Pro	Thr	Leu	Arg	Leu	Asn	Asn
1475						1480					1485			
Ala	Glu	Ile	Pro	Pro	Ser	Pro	Val	Pro	Gln	Gly	Pro	Lys	Gln	Leu
1490						1495					1500			
Ser	Gly	Ser	Asn	Leu	Gly	Gln	Gln	Pro	Val	Glu	Thr	Ser	Gly	Asp
1505						1510					1515			
Glu	Met	Phe	Asp	Ala	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu	Tyr	Phe
1520						1525					1530			
Tyr	Gly	Val	Arg	Ile	Phe	Pro	Gly	Gln	Asp	Pro	Thr	His	Val	Tyr
1535						1540					1545			
Val	Gly	Trp	Val	Thr	Thr	Gln	Tyr	His	Leu	His	Ser	Arg	Glu	Phe
1550						1555					1560			
Asn	Lys	Asn	Lys	Val	Arg	Arg	Gly	Ser	Val	Tyr	Ile	Glu	Asp	Asp
1565						1570					1575			
Tyr	Glu	Met	Ala	Ile	Glu	Arg	Ile	Asp	Arg	Gln	Ser	Cys	Tyr	Val
1580						1585					1590			

Val	Arg	Ala	Asp	Glu	Leu	Phe	Asn	Glu	Val	Thr	Gln	Asp	Ala	Ser
1595						1600					1605			
Gly	Lys	Gly	Ala	Ser	Gln	Gly	Met	Phe	Val	Gly	Cys	Phe	Val	Asp
1610						1615					1620			
Thr	Ala	Thr	Gly	Ile	Ile	Arg	Phe	Thr	Cys	Glu	Gly	Lys	Asp	Thr
1625						1630					1635			
Ser	His	Arg	Trp	Met	Met	Glu	Pro	Asp	Thr	Lys	Leu	Phe	Pro	Ala
1640						1645					1650			
Ile	Phe	Val	Glu	Ala	Thr	Ser	Lys	Glu	Ile	Leu	Gln	Ile	Glu	Leu
1655						1660					1665			
Gly	Arg	Thr	Pro	Thr	Thr	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro
1670						1675					1680			
Thr	Ser	Asp	Lys	His	Ile	Asn	Pro	Gln	Ser	Pro	Pro	Arg	Leu	Lys
1685						1690					1695			
Val	Gln	Cys	Leu	Arg	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Thr
1700						1705					1710			
Ala	Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp	Val	Arg	Gly	Trp
1715						1720					1725			
Ser	Met	Leu	Cys	Glu	Asp	Pro	Val	Ser	Met	Leu	Ala	Leu	Arg	Ile
1730						1735					1740			
Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met
1745						1750					1755			
Asp	Lys	Leu	Leu	Ser	Phe	His	Ala	His	Ser	Leu	Thr	Leu	Tyr	Ala
1760						1765					1770			
Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys
1775						1780					1785			
Gln	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Arg	Ser	Glu
1790						1795					1800			
Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile
1805						1810					1815			
Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys
1820						1825					1830			
Asn	Glu	Tyr	Ile	Thr	Pro	Leu	Gly	Ala	Glu	Leu	Lys	Glu	Leu	Tyr
1835						1840					1845			
Ser	Asp	Glu	Glu	Met	Gln	His	Ser	Leu	Arg	Ser	Leu	Val	Thr	Glu
1850						1855					1860			
Ser	Val	Arg	Pro	Gln	Leu	Arg	Met	Thr	Glu	Ile	Thr	Glu	Pro	Ile
1865						1870					1875			
Pro	Asp	Ile	Asp	Gln	Leu	Tyr	Ser	Pro	Lys	Phe	Pro	Leu	Glu	Val
1880						1885					1890			

Val Arg 1895	Gln Phe Val Met 1900	Glu Ala Leu Lys Asp 1905	Val Glu Ile
Asn Gln 1910	Val His Asn Arg Asp 1915	Pro Ile Gly Trp Thr 1920	Asn Glu Asn
Leu Phe 1925	Leu Pro Leu Ile Lys 1930	Leu Thr Asp Arg Leu 1935	Leu Leu Val
Gly Val 1940	Leu Thr Asp Glu Asp 1945	Val Gln Arg Leu Leu 1950	Val Met Ile
Asp Pro 1955	Glu Thr Trp Asp Gln 1960	Ala Phe Glu Arg Glu 1965	Gly Lys Asp
Glu His 1970	Arg Lys Gly Leu Leu 1975	Thr Met Lys Met Ala 1980	Glu Gly Ala
Lys Leu 1985	Gln Met Arg Tyr Leu 1990	Leu His His Leu Tyr 1995	Asp Thr Gln
Leu Arg 2000	His Arg Val Glu Ser 2005	Ile Ile Ala Phe Ser 2010	His Asp Phe
Val Gly 2015	Asp Leu Gln Thr Asp 2020	Gln Leu Arg Arg Tyr 2025	Ile Glu Ile
Lys Gln 2030	Ser Asp Leu Pro Ser 2035	Ala Val Ala Ala Lys 2040	Lys Thr Lys
Glu Phe 2045	Arg Cys Pro Pro Arg 2050	Glu Gln Met Asn Gln 2055	Ile Leu Cys
Phe Lys 2060	Asn Leu Glu Pro Asp 2065	Asp Gln Asp Asn Cys 2070	Thr Cys Gly
Leu Glu 2075	Leu Arg Gly Arg Leu 2080	Gly Asp Phe His Asp 2085	Ser Leu Met
Gln Lys 2090	Val Ser Leu Asn Ala 2095	Leu Gln Glu Pro Asp 2100	Gly Val Glu
Gly Thr 2105	Ala Ile Glu Glu Val 2110	Lys Thr Gly Pro Ile 2115	Thr Lys Ile
Tyr Asn 2120	Phe Ile Asn Thr Val 2125	Lys Glu Leu Glu Glu 2130	Gly Pro Lys
Glu Val 2135	Glu Glu Pro Glu Lys 2140	Lys Thr Pro Glu Glu 2145	Val Phe Arg
Lys Val 2150	Leu Ile Lys Thr Ile 2155	Val Ser Trp Ala Glu 2160	Glu Ser Gln
Ile Glu 2165	Asn Pro Lys Leu Val 2170	Arg Glu Met Phe Ser 2175	Leu Leu Leu
Arg Gln 2180	Tyr Asp Thr Val Gly 2185	Glu Leu Val Arg Ala 2190	Leu Glu Lys

Thr	Tyr	Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met
2195						2200					2205			
Trp	Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met
2210						2215					2220			
Ser	Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu
2225						2230					2235			
Val	Asn	Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile
2240						2245					2250			
Leu	Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu
2255						2260					2265			
Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu
2270						2275					2280			
Val	Ala	Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu
2285						2290					2295			
Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr
2300						2305					2310			
Gly	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu
2315						2320					2325			
Leu	Asp	Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly
2330						2335					2340			
Ser	Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr
2345						2350					2355			
Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala
2360						2365					2370			
Val	Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val
2375						2380					2385			
Glu	Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu
2390						2395					2400			
Arg	Tyr	Pro	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu
2405						2410					2415			
Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg
2420						2425					2430			
Arg	Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly
2435						2440					2445			
Leu	Phe	Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile
2450						2455					2460			
Ser	Asp	Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala
2465						2470					2475			
Gly	Leu	Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu
2480						2485					2490			

Asp	Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr
2495						2500					2505			
Leu	Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile
2510						2515					2520			
Glu	Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg
2525						2530					2535			
Ser	Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys
2540						2545					2550			
Phe	Thr	Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser
2555						2560					2565			
Asp	Met	Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val
2570						2575					2580			
Leu	Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe
2585						2590					2595			
Tyr	Arg	Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala
2600						2605					2610			
Thr	Ile	Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu
2615						2620					2625			
Ala	Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile
2630						2635					2640			
Lys	His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu
2645						2650					2655			
Leu	Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg
2660						2665					2670			
Met	Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val
2675						2680					2685			
Ala	Leu	Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu
2690						2695					2700			
Arg	Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr
2705						2710					2715			
Val	Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys
2720						2725					2730			
Tyr	Tyr	Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser
2735						2740					2745			
Asp	Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe
2750						2755					2760			
Asp	Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys
2765						2770					2775			
Ala	Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp
2780						2785					2790			

Tyr	Ser	Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln
2795						2800					2805			
Met	Gly	Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp
2810						2815					2820			
Thr	Asn	Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln
2825						2830					2835			
Lys	Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu
2840						2845					2850			
Glu	Gly	Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg
2855						2860					2865			
Lys	His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu
2870						2875					2880			
Arg	Glu	Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu
2885						2890					2895			
Leu	Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Pro
2900						2905					2910			
Leu	Asn	His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile
2915						2920					2925			
Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro	Val	Asp	Met
2930						2935					2940			
Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met	Ala	Glu	Arg
2945						2950					2955			
Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys	Lys	Asn	Glu
2960						2965					2970			
Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln	Leu	Val	Pro
2975						2980					2985			
Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg
2990						2995					3000			
Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Met	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu
3005						3010					3015			
His	Lys	Pro	Ser	Lys	Gly	Gly	Ala	Val	Glu	Glu	Gly	Gly	Ala	Thr
3020						3025					3030			
Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu	Leu	Glu	Lys
3035						3040					3045			
Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys	Leu	Leu
3050						3055					3060			
Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys	Thr	Ala
3065						3070					3075			
Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu	Pro	Leu	Met
3080						3085					3090			

Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala	Ile	Ala
3095						3100					3105			
Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu
3110						3115					3120			
Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu	Leu	Arg	Asn
3125						3130					3135			
Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr	Val	Arg	Cys
3140						3145					3150			
Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr	Leu	Thr	Lys
3155						3160					3165			
Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn
3170						3175					3180			
Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn	Leu	Gln	Asp
3185						3190					3195			
Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys	Thr	Ser	Thr
3200						3205					3210			
Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val	Leu	Thr	Ala
3215						3220					3225			
Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser	Asp	Leu	Leu
3230						3235					3240			
Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu	Ala	Ala	Leu
3245						3250					3255			
Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp	Arg	Lys	Tyr
3260						3265					3270			
Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu	Gly	Ser	Cys
3275						3280					3285			
Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro
3290						3295					3300			
His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn	Arg	Ile	Ala
3305						3310					3315			
Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys	Met	Glu	Ser
3320						3325					3330			
Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Ala	Glu	Val	Asp	Gln	Phe
3335						3340					3345			
Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His	Ile	Ile	Asp
3350						3355					3360			
Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe	Trp	Trp	Ser
3365						3370					3375			
Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn	His	Val	Thr
3380						3385					3390			

Met Val	Thr Ala Asp His	Met	Asn Pro Leu Leu Arg	Asn Val Leu
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Lys Met	Ile Lys Lys Asn Ile	Gly Asn Asp Asn Ala	Pro Trp Met	
3410		3415		3420
Thr Arg	Ile Ala Ala Tyr Thr	Gln Gln Ile Ile Ile	Asn Thr Ser	
3425		3430		3435
Glu Glu	Leu Leu Lys Asp Pro	Phe Leu Pro Leu Ala	Glu Arg Val	
3440		3445		3450
Lys Lys	Arg Thr Glu Asn Met	Leu His Lys Glu Asp	Ser Met Arg	
3455		3460		3465
Gly Phe	Ile Lys Ser Ala Thr	Asp Asp Thr Ser Gln	Val Glu Thr	
3470		3475		3480
Gln Leu	Gln Glu Asp Trp Asn	Leu Leu Val Arg Asp	Ile Tyr Ser	
3485		3490		3495
Phe Tyr	Pro Leu Leu Ile Lys	Tyr Val Asp Leu Gln	Arg Asn His	
3500		3505		3510
Trp Leu	Lys Asp Asn Ile Pro	Glu Ala Glu Glu Leu	Tyr Asn His	
3515		3520		3525
Val Ala	Glu Ile Phe Asn Ile	Trp Ser Lys Ser Gln	Tyr Phe Leu	
3530		3535		3540
Lys Glu	Glu Gln Asn Phe Ile	Ser Ala Asn Glu Ile	Asp Asn Met	
3545		3550		3555
Ala Leu	Ile Met Pro Thr Ala	Thr Arg Arg Ser Ala	Ile Ser Glu	
3560		3565		3570
Gly Ala	Pro Ala Val Gly Gly	Lys Val Lys Lys Lys	Lys Lys Asn	
3575		3580		3585
Arg Asp	Lys Lys Arg Asp Lys	Asp Lys Glu Val Gln	Ala Ser Leu	
3590		3595		3600
Met Val	Ala Cys Leu Lys Arg	Leu Leu Pro Val Gly	Leu Asn Leu	
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Phe Ala	Gly Arg Glu Gln Glu	Leu Val Gln His Cys	Lys Asp Arg	
3620		3625		3630
Tyr Leu	Lys Lys Met Pro Glu	Tyr Asp Val Ile Glu	Phe Ala Arg	
3635		3640		3645
Asn Gln	Leu Thr Leu Pro Asp	Lys Leu Asp Pro Ser	Asp Glu Met	
3650		3655		3660
Ser Trp	Gln His Tyr Leu Tyr	Ser Lys Leu Gly Lys	Thr Glu Glu	
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Pro Val	Asp Glu Gln Ala Leu	Glu Lys Ala Asn Val	Asn Ser Asn	
3680		3685		3690

Glu Lys	Gly Lys Asp Lys Thr	Gln Glu Thr Val Asp	Arg Ile Val
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Ala Met	Ala Lys Val Leu Phe	Gly Leu His Met Ile	Asp His Pro
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Gln Gln	Gln Ser Lys Asn Val	Tyr Arg Ser Val Val	Ser Ile Gln
3725	3730	3735	
Arg Lys	Arg Ala Val Ile Ala	Cys Phe Arg Gln Thr	Ser Leu His
3740	3745	3750	
Ser Leu	Pro Arg His Arg Ala	Cys Asn Ile Phe Ala	Arg Ser Tyr
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Tyr Glu	Gln Trp Leu Gln Glu	Glu Asn Val Gly Gln	Glu Val Met
3770	3775	3780	
Val Glu	Asp Leu Thr Gln Thr	Phe Glu Asp Ser Glu	Lys Ser Lys
3785	3790	3795	
Lys Glu	Gly Glu Glu Thr Asp	Ser Lys Pro Asp Pro	Leu Thr Gln
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Ala Leu	Gln Glu Asp Leu Leu	Tyr Met Ser Tyr Ala	Gln Ile Ala
3830	3835	3840	
Ala Lys	Ser Thr Gly Lys Glu	Glu Glu Glu Gly Gly	Asp Glu Glu
3845	3850	3855	
Gly Gly	Glu Gly Gly Glu Glu	Ala Glu Gly Thr Ser	Ile His Glu
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Gln Glu	Met Glu Lys Gln Lys	Leu Leu Phe His Gln	Ala Arg Leu
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Ser Lys	Gly Ile Pro Ser Glu	Met Val Met Thr Thr	Leu Asn Leu
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Ser Ile	Ala Gly Leu Met Asn	Ser Cys Ser Val Leu	Asp Leu Asp
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Ala Phe	Glu Arg Asn Thr Lys	Ala Glu Gly Leu Gly	Val Gly Ser
3965	3970	3975	
Glu Gly	Ala Ala Gly Glu Lys	Asn Met His Asp Ala	Glu Phe Thr
3980	3985	3990	

Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu	Gly	His	Asn
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Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly	Asn	Thr	Thr
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Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu	Leu	Arg	Leu
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4055						4060					4065			
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4070						4075					4080			
Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser	Arg	Leu	Trp
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4100						4105					4110			
Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu	Lys	Glu	Leu
4115						4120					4125			
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4130						4135					4140			
Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln	Met	Val	Asp
4145						4150					4155			
Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile	Leu	Lys	Tyr
4160						4165					4170			
Phe	Asp	Met	Phe	Leu	Lys	Leu	Ala	Asp	Leu	Ile	Glu	Ser	Pro	Ser
4175						4180					4185			
Phe	His	Glu	Val	Asp	Met	Lys	Asn	Glu	Gly	Trp	Val	Thr	Pro	Lys
4190						4195					4200			
Asp	Phe	Arg	Glu	Lys	Met	Glu	Gln	Ser	Lys	Asn	Tyr	Thr	Pro	Glu
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Glu	Met	Asp	Phe	Leu	Leu	Ala	Cys	Cys	Glu	Arg	Asn	His	Glu	Gly
4220						4225					4230			
Lys	Ile	Asp	Tyr	Arg	Ala	Phe	Val	Glu	His	Phe	His	Glu	Pro	Ser
4235						4240					4245			
Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu	Thr	Asn	Leu	Ser
4250						4255					4260			
Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Ala	Arg	Phe	Leu	Glu	Thr
4265						4270					4275			
Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe	Glu	Pro	Phe	Leu	Gly	Arg	Ile
4280						4285					4290			

Glu	Ile	Leu	Gly	Ser	Ser	Lys	Arg	Ile	Glu	Arg	Val	Tyr	Phe	Glu
4295						4300					4305			
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4325						4330					4335			
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4340						4345					4350			
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4580						4585					4590			

Ala	Lys	Lys	Ser	Ser	Ser	Ala	Pro	Gln	Glu	Thr	Pro	Ala	Val	His
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4790						4795					4800			
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4865						4870					4875			
His	Leu	Leu	Asp	Val	Ala	Val	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile
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 Met Leu Leu Thr Ile Ile Val Tyr Ile Tyr Thr Val Ile Ala Phe
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 Gln Gly Leu Ile Ile Asp Ala Phe Gly Glu Leu Arg Asp Gln Leu
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 Glu Ser Val Lys Asp Asn Met Glu Ser Asn Cys Phe Ile Cys Gly
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 His Val Gln Lys Glu His Asn Leu Ala Asn Tyr Met Phe Phe Leu
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 Met His Leu Ile Asn Lys Pro Asp Thr Glu Tyr Thr Gly Gln Glu
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Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
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Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
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Ser	Trp	Asp	Leu	Ile	Ser	Thr	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	Ile
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Pro	Glu	Glu	Pro	Phe	Ile	Arg	Lys	Gly	Asp	Val	Ile	Gly	Val	Ala	Ile
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Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp Ala 1115 1120 1125		
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Ser Phe Gly Lys Gln Cys Gly Pro Gly Asp Ile Val Gly Val Phe 1145 1150 1155		
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Lys Ile Ser His Asn Thr Phe 1280	Glu Thr Met Glu Lys 1285	Ala Asn Trp 1290
Glu Phe Leu Arg Leu Ser Leu 1295	Pro Val Thr Cys Met 1300	Gly Glu Phe 1305
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Arg Gln Tyr Arg Leu Met Arg 1325	Glu Ala Glu Ile Ala 1330	Ala Gln Met 1335
Gln Val Gln Thr Gln Ala Ala 1340	His Met Asp His Met 1345	Leu Lys Gly 1350
Gly Phe Asn Met Asn Asp Ile 1355	Lys Gly Leu Thr Arg 1360	Asn Phe Asp 1365
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Gln Phe 1910	Val Met Glu Ala Leu 1915	Lys Asp Ala Val Glu 1920
Val His 1925	Asn Arg Asp Pro Ile 1930	Gly Trp Thr Asn Glu 1935
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Leu Thr 1955	Asp Glu Asp Val Gln 1960	Arg Leu Leu Val Met 1965
Glu Thr 1970	Trp Asp Gln Ala Phe 1975	Glu Arg Glu Gly Lys 1980
Arg Lys 1985	Gly Leu Leu Thr Met 1990	Lys Met Ala Glu Gly 1995
Gln Met 2000	Cys Tyr Leu Leu His 2005	His Leu Tyr Asp Thr 2010
His Arg 2015	Val Glu Ser Ile Ile 2020	Ala Phe Ser His Asp 2025
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Asn Leu 2075	Glu Pro Asp Asp Gln 2080	Asp Asn Cys Thr Cys 2085
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Asn Phe Thr His Pro Leu	Pro Glu Gly Glu Glu	Asp Glu Asp Tyr		
2495	2500	2505		
Ile Asp Thr Gly Ala Ala	Ile Leu Asn Phe Tyr	Cys Thr Leu Val		
2510	2515	2520		
Asp Leu Leu Gly Arg Cys	Ala Pro Asp Ala Ser	Val Ile Glu Gln		
2525	2530	2535		
Gly Lys Asn Glu Ser Leu	Arg Ala Arg Ala Ser	Leu Arg Ser Leu		
2540	2545	2550		
Val Pro Leu Glu Asp Leu	Gln Gly Val Leu Ser	Leu Lys Phe Thr		
2555	2560	2565		
Leu Ser Gln Thr Ala Pro	Gly Glu Glu Lys Pro	Lys Ser Asp Met		
2570	2575	2580		
Pro Ser Gly Leu Leu Pro	Asn Asn Lys Gln Ser	Ile Val Leu Phe		
2585	2590	2595		
Leu Glu Arg Val Tyr Gly	Ile Glu Ala Gln Asp	Leu Phe Tyr Arg		
2600	2605	2610		
Leu Leu Glu Asp Ala Phe	Leu Pro Asp Leu Arg	Thr Ala Thr Ile		
2615	2620	2625		
Leu Asp Lys Ser Asp Gly	Ser Glu Ser Asp Met	Ala Leu Ala Met		
2630	2635	2640		
Asn Arg Tyr Ile Gly Asn	Ser Ile Leu Pro Leu	Leu Ile Lys His		
2645	2650	2655		
Ser Lys Phe Tyr Asn Glu	Ala Glu Asn Tyr Ala	Ser Leu Leu Asp		
2660	2665	2670		
Ala Thr Leu His Thr Val	Tyr Arg Leu Ser Lys	Asn Arg Met Leu		
2675	2680	2685		
Thr Lys Gly Gln Arg Glu	Ala Val Ser Asp Phe	Leu Val Ala Leu		
2690	2695	2700		
Thr Ser Gln Met Gln Pro	Ala Met Leu Leu Lys	Leu Leu Arg Lys		
2705	2710	2715		
Leu Thr Val Asp Val Ser	Lys Leu Ser Glu Tyr	Thr Thr Val Ala		
2720	2725	2730		
Leu Arg Leu Leu Thr Leu	His Phe Asp Arg Cys	Ala Lys Tyr Tyr		

2735						2740					2745			
Gly Ser Thr Gln Gly Gln	Gly Ser Tyr Gly Ala Ser	Ser Asp Glu												
2750	2755	2760												
Glu Lys Arg Leu Thr Met	Leu Leu Phe Ser Asn Ile	Phe Asp Ser												
2765	2770	2775												
Leu Ser Asn Met Asp Tyr	Asp Pro Glu Leu Phe Gly	Lys Ala Leu												
2780	2785	2790												
Pro Cys Leu Ile Ala Ile	Gly Cys Ala Leu Pro Pro	Asp Tyr Ser												
2795	2800	2805												
Leu Ser Lys Asn Thr Asp	Glu Asp Tyr Tyr Gly Arg	Gln Met Gly												
2810	2815	2820												
Ala Pro Asp Gln Pro Gln	Tyr Met Pro Asn Pro Ile	Asp Thr Asn												
2825	2830	2835												
Asn Val His Leu Asp Asn	Asp Leu Asn Ser Leu Val	Gln Lys Phe												
2840	2845	2850												
Ser Glu His Tyr His Asp	Ala Trp Ala Ser Arg Arg	Leu Glu Gly												
2855	2860	2865												
Gly Trp Thr Tyr Gly Asp	Ile Arg Ser Asp Asn Asp	Arg Lys His												
2870	2875	2880												
Pro Arg Leu Lys Pro Tyr	Asn Met Leu Ser Glu Tyr	Glu Arg Glu												
2885	2890	2895												
Arg Tyr Arg Asp Pro Val	Arg Glu Cys Leu Lys Gly	Leu Leu Ala												
2900	2905	2910												
Ile Gly Trp Thr Val Glu	His Ser Glu Val Glu Val	Pro Leu Asn												
2915	2920	2925												
His Arg Gly Ser Thr Arg	Arg Gln Ser Lys Pro Gln	Ile Asn Glu												
2930	2935	2940												
Phe Gln Asn Glu Gly Ser	Pro Phe Asn Tyr Asn Pro	His Pro Val												
2945	2950	2955												
Asp Met Ser Asn Leu Thr	Leu Ser Arg Glu Met Gln	Asn Met Ala												
2960	2965	2970												
Glu Arg Leu Ala Glu Asn	Ser His Asp Ile Trp Ala	Lys Lys Lys												
2975	2980	2985												
Asn Glu Glu Leu Asn Gly	Cys Gly Gly Val Ile His	Pro Gln Leu												
2990	2995	3000												
Val Pro Tyr Asp Leu Leu	Thr Asp Lys Glu Lys Lys	Lys Asp Arg												
3005	3010	3015												
Glu Arg Ser Gln Glu Phe	Leu Lys Tyr Met Gln Tyr	Gln Gly Tyr												
3020	3025	3030												
Lys Leu His Lys Pro Ser	Lys Gly Gly Ala Val Glu	Glu Gly Gly												

3035					3040					3045				
Ala	Thr	Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu	Leu
3050						3055					3060			
Glu	Lys	Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys
3065						3070					3075			
Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys
3080						3085					3090			
Thr	Ala	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu	Pro
3095						3100					3105			
Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala
3110						3115					3120			
Ile	Ala	Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys	Glu
3125						3130					3135			
Lys	Glu	Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu	Leu
3140						3145					3150			
Arg	Asn	Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr	Val
3155						3160					3165			
Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr	Leu
3170						3175					3180			
Thr	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe
3185						3190					3195			
Phe	Asn	Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn	Gln
3200						3205					3210			
Gln	Asp	Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys	Thr
3215						3220					3225			
Ser	Thr	Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val	Leu
3230						3235					3240			
Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser	Asp
3245						3250					3255			
Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu	Ala
3260						3265					3270			
Ala	Leu	Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp	Arg
3275						3280					3285			
Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu	Gly
3290						3295					3300			
Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe	Leu
3305						3310					3315			
Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn	Arg
3320						3325					3330			
Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys	Met

3335	3340	3345
Glu Ser Cys Met Pro Asn	Leu Glu Thr Ile Leu	Gly Glu Val Asp
3350	3355	3360
Gln Phe Val Glu Ser Asp	Lys Thr Tyr Asn Asp	Ala Pro His Ile
3365	3370	3375
Ile Asp Val Ile Leu Pro	Leu Leu Cys Ala Tyr	Leu Pro Phe Trp
3380	3385	3390
Trp Ser Gln Gly Pro Asp	Asn Val Ser Pro Thr	Ser Gly Asn His
3395	3400	3405
Val Thr Met Val Thr Ala	Asp His Met Asn Pro	Leu Leu Arg Asn
3410	3415	3420
Val Leu Lys Met Ile Lys	Lys Asn Ile Gly Asn	Asp Asn Ala Pro
3425	3430	3435
Trp Met Thr Arg Ile Ala	Ala Tyr Thr Gln Gln	Ile Ile Ile Asn
3440	3445	3450
Thr Ser Glu Glu Leu Leu	Lys Asp Pro Phe Leu	Pro Leu Ala Glu
3455	3460	3465
Arg Val Lys Lys Arg Thr	Glu Asn Met Leu His	Lys Glu Asp Ser
3470	3475	3480
Met Arg Gly Phe Ile Lys	Ser Ala Thr Asp Asp	Thr Ser Gln Val
3485	3490	3495
Glu Thr Gln Leu Gln Glu	Asp Trp Asn Leu Leu	Val Arg Asp Ile
3500	3505	3510
Tyr Ser Phe Tyr Pro Leu	Leu Ile Lys Tyr Val	Asp Leu Gln Arg
3515	3520	3525
Asn His Trp Leu Lys Asp	Asn Ile Pro Glu Ala	Glu Glu Leu Tyr
3530	3535	3540
Asn His Val Ala Glu Ile	Phe Asn Ile Trp Ser	Lys Ser Gln Tyr
3545	3550	3555
Phe Leu Lys Glu Glu Gln	Asn Phe Ile Ser Ala	Asn Glu Ile Asp
3560	3565	3570
Asn Met Ala Leu Ile Met	Pro Thr Ala Thr Arg	Arg Ser Ala Ile
3575	3580	3585
Ser Glu Gly Ala Pro Ala	Val Gly Gly Lys Val	Lys Lys Lys Lys
3590	3595	3600
Lys Asn Arg Asp Lys Lys	Arg Asp Lys Asp Lys	Glu Val Gln Ala
3605	3610	3615
Ser Leu Met Val Ala Cys	Leu Lys Arg Leu Leu	Pro Val Gly Leu
3620	3625	3630
Asn Leu Phe Ala Gly Arg	Glu Gln Glu Leu Val	Gln His Cys Lys

3635	3640	3645
Asp Arg Tyr Leu Lys Lys Met	Pro Glu Tyr Asp Val	Ile Glu Phe
3650	3655	3660
Ala Arg Asn Gln Leu Thr Leu	Pro Asp Lys Leu Asp	Pro Ser Asp
3665	3670	3675
Glu Met Ser Trp Gln His Tyr	Leu Tyr Ser Lys Leu	Gly Lys Thr
3680	3685	3690
Glu Glu Pro Val Asp Glu Gln	Ala Leu Glu Lys Ala	Asn Val Asn
3695	3700	3705
Ser Asn Glu Lys Gly Lys Asp	Lys Thr Gln Glu Thr	Val Asp Arg
3710	3715	3720
Ile Val Ala Met Ala Lys Val	Leu Phe Gly Leu His	Met Ile Asp
3725	3730	3735
His Pro Gln Gln Gln Ser Lys	Asn Val Tyr Arg Ser	Val Val Ser
3740	3745	3750
Ile Gln Arg Lys Arg Ala Val	Ile Ala Cys Phe Arg	Gln Thr Ser
3755	3760	3765
Leu His Ser Leu Pro Arg His	Arg Ala Cys Asn Ile	Phe Ala Arg
3770	3775	3780
Ser Tyr Tyr Glu Gln Trp Leu	Gln Glu Glu Asn Val	Gly Gln Glu
3785	3790	3795
Val Met Val Glu Asp Leu Thr	Gln Thr Phe Glu Asp	Ser Glu Lys
3800	3805	3810
Ser Lys Lys Glu Gly Glu Glu	Thr Asp Ser Lys Pro	Asp Pro Leu
3815	3820	3825
Thr Gln Leu Val Thr Thr Phe	Cys Arg Gly Ala Met	Thr Glu Arg
3830	3835	3840
Ser Gly Ala Leu Gln Glu Asp	Leu Leu Tyr Met Ser	Tyr Ala Gln
3845	3850	3855
Ile Ala Ala Lys Ser Thr Gly	Lys Glu Glu Glu Glu	Gly Gly Asp
3860	3865	3870
Glu Glu Gly Gly Glu Gly Gly	Glu Glu Gly Glu Gly	Thr Ser Ile
3875	3880	3885
His Glu Gln Glu Met Glu Lys	Gln Lys Leu Leu Phe	His Gln Ala
3890	3895	3900
Arg Leu Ser Asn Arg Gly Val	Ala Glu Met Val Leu	Leu His Ile
3905	3910	3915
Ser Ala Ser Lys Gly Ile Pro	Ser Glu Met Val Met	Thr Thr Leu
3920	3925	3930
Asn Leu Gly Ile Ala Ile Leu	Arg Gly Gly Asn Ile	Asp Ile Gln

3935		3940		3945
Met Gly 3950	Met Leu Asn His	Leu 3955	Lys Glu Lys Lys Asp 3960	Val Gly Phe
Phe Thr 3965	Ser Ile Ala Gly	Leu 3970	Met Asn Ser Cys Ser 3975	Val Leu Asp
Leu Asp 3980	Ala Phe Glu Arg	Asn 3985	Thr Lys Ala Glu Gly 3990	Leu Gly Val
Gly Ser 3995	Glu Gly Ala Ala	Gly 4000	Glu Lys Asn Met His 4005	Asp Ala Glu
Phe Thr 4010	Cys Ala Leu Phe	Arg 4015	Phe Ile Gln Leu Thr 4020	Cys Glu Gly
His Asn 4025	Leu Glu Trp Gln	Asn 4030	Tyr Leu Arg Thr Gln 4035	Ala Gly Asn
Thr Thr 4040	Thr Val Asn Val	Val 4045	Ile Cys Thr Val Asp 4050	Tyr Leu Leu
Arg Leu 4055	Gln Glu Ser Ile	Met 4060	Asp Phe Tyr Trp His 4065	Tyr Ser Ser
Lys Glu 4070	Ile Ile Asp Pro	Ala 4075	Gly Lys Ala Asn Phe 4080	Phe Lys Ala
Ile Glu 4085	Val Ala Ser Gln	Val 4090	Phe Asn Thr Leu Ile 4095	Glu Val Ile
Gln Gly 4100	Pro Cys Thr Leu	Asn 4105	Gln Gln Ala Leu Ala 4110	His Ser Arg
Leu Trp 4115	Asp Ala Val Gly	Gly 4120	Phe Leu Phe Leu Phe 4125	Ser His Met
Gln Asp 4130	Lys Leu Ser Lys	His 4135	Ser Ser Gln Val Asp 4140	Leu Leu Lys
Glu Leu 4145	Leu Asn Leu Gln	Lys 4150	Asp Met Ile Thr Met 4155	Met Leu Ser
Met Leu 4160	Glu Gly Asn Val	Val 4165	Asn Gly Thr Ile Gly 4170	Lys Gln Met
Val Asp 4175	Thr Leu Val Glu	Ser 4180	Ala Ser Asn Val Glu 4185	Leu Ile Leu
Lys Tyr 4190	Phe Asp Met Phe	Leu 4195	Lys Leu Ala Asp Leu 4200	Ile Glu Ser
Pro Ser 4205	Phe His Glu Val	Asp 4210	Met Lys Asn Glu Gly 4215	Trp Val Thr
Pro Lys 4220	Asp Phe Arg Glu	Lys 4225	Met Glu Gln Ser Lys 4230	Asn Tyr Thr
Pro Glu	Glu Met Asp Phe	Leu	Leu Ala Cys Cys Glu	Arg Asn His

4235	4240	4245
Glu Gly Lys Ile Asp Tyr	Arg Ala Phe Val Glu	His Phe His Glu
4250	4255	4260
Pro Ser Lys Glu Ile Gly	Phe Asn Leu Ala Val	Leu Leu Thr Asn
4265	4270	4275
Leu Ser Glu His Met Pro	Asn Glu Pro Arg Leu	Ala Arg Phe Leu
4280	4285	4290
Glu Thr Ala Gly Ser Val	Leu Asn Tyr Phe Glu	Pro Phe Leu Gly
4295	4300	4305
Arg Ile Glu Ile Leu Gly	Ser Ser Lys Arg Ile	Glu Arg Val Tyr
4310	4315	4320
Phe Glu Ile Lys Asp Ser	Asn Ile Glu Gln Trp	Glu Lys Pro Gln
4325	4330	4335
Ile Arg Glu Ser Lys Arg	Ala Phe Phe Tyr Ser	Ile Val Thr Glu
4340	4345	4350
Gly Gly Asp Lys Glu Lys	Leu Glu Ala Phe Val	Asn Phe Cys Glu
4355	4360	4365
Asp Ala Ile Phe Glu Met	Thr His Ala Ser Gly	Leu Met Ala Thr
4370	4375	4380
Asp Asp Gly Gly Gly Asn	Val Lys Arg Asp Thr	Ala Tyr Ser Ser
4385	4390	4395
Tyr Met Ser Glu Glu Glu	Glu Glu Arg Ala Ala	Arg Asp Pro Ile
4400	4405	4410
Arg Arg Thr Ile Thr Ala	Val Lys Glu Gly Leu	Lys Phe Gly Val
4415	4420	4425
His Met Leu Ser Pro Ala	Asn Ile Lys His Gln	Ile Gly Val Met
4430	4435	4440
Gln Thr Lys Ser Ile Pro	Glu Leu Ile Val Gly	Phe Phe Lys Ile
4445	4450	4455
Ile Phe Tyr Ile Phe Tyr	Tyr Thr Gly Tyr Ala	His Phe Cys Val
4460	4465	4470
Val Arg Tyr Ile Phe Gly	Ile Leu Leu Asn Leu	Met Arg Gly Pro
4475	4480	4485
Ala Pro Glu Gln Glu Glu	Glu Pro Val Val Glu	Glu Glu Thr Phe
4490	4495	4500
Gly Arg Ala Leu Pro Pro	Leu Pro Leu Glu Glu	Pro Pro Gly Thr
4505	4510	4515
Val Gln Ala Phe Gly Leu	Asp Ile Asn Lys Glu	Glu Asn Gly Met
4520	4525	4530
Tyr Lys Val Val Val His	Glu Ser Pro Ala Asn	Ser Ser Met Glu

4535						4540				4545				
Glu	Gly	Gly	Glu	Ser	Ser	Pro	Glu	Asp	Gly	Ala	Ala	Ala	Ser	Gly
4550						4555					4560			
Glu	Leu	Val	Glu	Gly	Glu	Pro	His	Gln	Glu	Pro	Ile	Ser	Ile	Val
4565						4570					4575			
Asp	Leu	Leu	Gly	Gly	Glu	Ala	Ala	Lys	Lys	Ala	Ala	Gln	Glu	Arg
4580						4585					4590			
Gln	Glu	Ala	Gln	Lys	Ala	Gln	Glu	Ala	Ala	Met	Ala	Ser	Ile	Glu
4595						4600					4605			
Ala	Glu	Ala	Lys	Lys	Ser	Ser	Ser	Ala	Pro	Gln	Glu	Thr	Pro	Ala
4610						4615					4620			
Val	His	Gln	Ile	Asp	Phe	Ser	Gln	Tyr	Thr	His	Arg	Ala	Val	Ser
4625						4630					4635			
Phe	Leu	Ala	Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val	Ala	Leu	Val
4640						4645					4650			
Leu	Ala	Phe	Ser	Ile	Asn	Phe	Met	Leu	Leu	Phe	Tyr	Lys	Val	Thr
4655						4660					4665			
Ser	Phe	Thr	Glu	Glu	Ala	Asp	Ser	Ser	Ala	Glu	Glu	Glu	Leu	Ile
4670						4675					4680			
Leu	Gly	Ser	Gly	Ser	Gly	Gly	Gly	Ala	Asp	Ile	Thr	Gly	Ser	Gly
4685						4690					4695			
Phe	Gly	Gly	Ser	Gly	Asp	Gly	Gly	Ser	Gly	Asp	Gly	Glu	Met	Glu
4700						4705					4710			
Asp	Glu	Ile	Pro	Glu	Leu	Val	His	Val	Asp	Glu	Asp	Phe	Phe	Tyr
4715						4720					4725			
Met	Glu	His	Val	Leu	Arg	Ile	Ala	Ala	Cys	Leu	His	Ser	Leu	Val
4730						4735					4740			
Ser	Leu	Ala	Met	Leu	Ile	Ala	Tyr	Tyr	His	Leu	Lys	Val	Pro	Leu
4745						4750					4755			
Ala	Ile	Phe	Lys	Arg	Glu	Lys	Glu	Ile	Ala	Arg	Arg	Leu	Glu	Phe
4760						4765					4770			
Glu	Gly	Leu	Phe	Ile	Ala	Glu	Gln	Pro	Glu	Asp	Asp	Asp	Phe	Lys
4775						4780					4785			
Ser	His	Trp	Asp	Lys	Leu	Val	Ile	Ser	Ala	Lys	Ser	Phe	Pro	Val
4790						4795					4800			
Asn	Tyr	Trp	Asp	Lys	Phe	Val	Lys	Lys	Lys	Val	Arg	Gln	Lys	Tyr
4805						4810					4815			
Ser	Glu	Thr	Tyr	Asp	Phe	Asp	Ser	Ile	Ser	Asn	Leu	Leu	Gly	Met
4820						4825					4830			
Glu	Lys	Ser	Thr	Phe	Ala	Ala	Gln	Glu	Ser	Glu	Glu	Thr	Gly	Ile

4835		4840		4845
Phe Lys Tyr Ile Met Asn	Ile Asp Trp Arg Tyr Gln	Val Trp Lys		
4850	4855	4860		
Ala Gly Val Thr Phe Thr	Asp Asn Ala Phe Leu Tyr	Ser Leu Trp		
4865	4870	4875		
Tyr Phe Ser Phe Ser Val	Met Gly Asn Phe Asn	Phe Phe Phe		
4880	4885	4890		
Ala Ala His Leu Leu Asp	Val Ala Val Gly Phe Lys	Thr Leu Arg		
4895	4900	4905		
Thr Ile Leu Gln Ser Val	Thr His Asn Gly Lys Gln	Leu Val Leu		
4910	4915	4920		
Thr Val Met Leu Leu Thr	Ile Ile Val Tyr Ile Tyr	Thr Val Ile		
4925	4930	4935		
Ala Phe Asn Phe Phe Arg	Lys Phe Tyr Ile Gln Glu	Glu Asp Glu		
4940	4945	4950		
Glu Val Asp Lys Lys Cys	His Asp Met Leu Thr Cys	Phe Val Phe		
4955	4960	4965		
His Leu Tyr Lys Gly Val	Arg Ala Gly Gly Gly Ile	Gly Asp Glu		
4970	4975	4980		
Ile Gly Asp Pro Asp Gly	Asp Asp Tyr Glu Val Tyr	Arg Ile Ile		
4985	4990	4995		
Phe Asp Ile Thr Phe Phe	Phe Phe Val Ile Ile Ile	Leu Leu Ala		
5000	5005	5010		
Ile Ile Gln Gly Leu Ile	Ile Asp Ala Phe Gly Glu	Leu Arg Asp		
5015	5020	5025		
Gln Leu Glu Ser Val Lys	Asp Asn Met Glu Ser Asn	Cys Phe Ile		
5030	5035	5040		
Cys Gly Met Gly Lys Asp	Phe Phe Asp Ile Val Pro	His Gly Phe		
5045	5050	5055		
Asp Thr His Val Gln Lys	Glu His Asn Leu Ala Asn	Tyr Met Phe		
5060	5065	5070		
Phe Leu Met His Leu Ile	Asn Lys Pro Asp Thr Glu	Tyr Thr Gly		
5075	5080	5085		
Gln Glu Thr Tyr Val Trp	Asn Met Tyr Gln Gln Arg	Ser Trp Asp		
5090	5095	5100		
Phe Phe Pro Val Gly Asp	Cys Phe Arg Lys Gln Tyr	Glu Asp Glu		
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Leu Ser Gly Gly Gly Gly	Gly Gly			
5120	5125			

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 <212> PRT
 <213> Anopheles gambiae

<400> 57
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 Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu Asn Ile Ala
 20 25 30
 Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val Phe Val Ile Glu
 35 40 45
 Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr Ala Ala Gly
 50 55 60
 Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr Leu Leu Tyr
 65 70 75 80
 Gly Asn Ala Ile Leu Leu Arg His Asn Asn Ser Asp Met Tyr Leu Ala
 85 90 95
 Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe Asp Val Gly
 100 105 110
 Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr Val His Pro
 115 120 125
 Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val Gly Asp Asp
 130 135 140
 Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His Thr Thr Lys
 145 150 155 160
 Glu Asn Asp Leu Ser Ile Val Asn Ala Ser Phe His Val Thr His Trp
 165 170 175
 Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys Tyr Val Gly
 180 185 190
 Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly Gly Asp Glu
 195 200 205
 Cys Leu Thr Ile Pro Ser Thr Trp Ser Leu Asp Ser Gly Gln Asn Ile
 210 215 220
 Val Val Tyr Glu Gly Gly Ser Val Met Ser Gln Ala Arg Ser Leu Trp
 225 230 235 240
 Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly Phe Ile Asn Trp
 245 250 255
 Ser His Pro Met Arg Ile Arg His Leu Thr Thr Gly Arg Tyr Leu Gly
 260 265 270
 Val Asn Glu Asn Asn Glu Leu Ile Leu Met Ser Arg Asp Gln Ala Thr
 275 280 285

Thr	Ser	Gln	Thr	Ala	Phe	Val	Leu	Arg	Leu	Glu	Lys	Asp	Asp	Gln	Lys	
290						295					300					
Val	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Ile	Ile	Gly	Ala	Pro	Ile	Ile	
305					310					315					320	
Lys	Tyr	Gly	Asp	Ser	Thr	Val	Ile	Met	Gln	His	Tyr	Glu	Ser	Gly	Leu	
				325					330					335		
Trp	Val	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	Val	Gly	Lys	
			340					345					350			
Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	Met	Asp	Asp	
	355						360					365				
Gly	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Arg	Thr	Ala	Arg	
370						375					380					
Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Lys	Phe	Ile	Ser	Gly	Leu	
385					390					395					400	
Glu	Thr	Leu	Gln	Glu	Asn	Arg	Arg	His	Ser	Ile	Phe	Leu	Gln	Thr	Val	
			405						410					415		
Asn	Leu	Gly	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	Asn	Tyr	Phe	
		420						425					430			
Ala	Gln	Pro	Glu	Asp	Asp	Met	Glu	His	Glu	Glu	Lys	Gln	Asn	Arg	Leu	
	435						440					445				
Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	Glu	Gly	Val	Leu	
	450					455					460					
Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Val	Ile	Ser	Ser	Gln	
465					470					475					480	
Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Ser	Asp	Glu	Ser	Gly	Gln	Ser	Trp	
				485					490					495		
Asp	Met	Ile	Ser	Gly	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	Ile	Ile	Lys	
			500					505					510			
Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	Asn	Arg	Leu	Asn	
	515						520					525				
Trp	Leu	Phe	Ser	Arg	Leu	Gly	Ser	Gln	Ala	Ser	Ser	Glu	Gly	Ser	Gly	
	530					535						540				
Met	Leu	Asp	Val	Leu	His	Cys	Val	Leu	Ile	Asp	Ser	Pro	Glu	Ala	Leu	
545					550					555					560	
Asn	Met	Met	Arg	Asp	Glu	His	Ile	Lys	Val	Ile	Ile	Ser	Leu	Leu	Glu	
				565					570					575		
Lys	His	Gly	Arg	Asp	Pro	Lys	Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	
			580					585					590			
Val	Gly	Asn	Gly	Val	Ala	Val	Arg	Ser	Ser	Gln	Asn	Asn	Ile	Cys	Asp	
		595					600					605				

Phe	Leu	Leu	Pro	Gly	Lys	Asn	Leu	Leu	Leu	Gln	Thr	Gly	Leu	Val	Asp	
610						615					620					
His	Val	Ala	Ser	Ile	Arg	Pro	Asn	Ile	Phe	Val	Gly	Arg	Val	Glu	Gly	
625					630					635					640	
Ser	Ala	Ile	Tyr	Gln	Lys	Trp	Tyr	Phe	Glu	Val	Thr	Met	Asp	His	Ile	
				645					650					655		
Glu	Gln	Met	Thr	His	Met	Thr	Pro	His	Leu	Arg	Ile	Gly	Trp	Ala	Asn	
			660					665					670			
Thr	Ala	Gly	Tyr	Val	Pro	Tyr	Pro	Gly	Gly	Gly	Glu	Lys	Trp	Gly	Gly	
		675					680					685				
Asn	Gly	Val	Gly	Asp	Asp	Leu	Phe	Ser	Tyr	Gly	Phe	Asp	Gly	Val	Tyr	
	690					695					700					
Phe	Trp	Ser	Ala	Gly	Arg	Arg	Thr	Cys	Val	Val	Pro	Arg	Glu	Val	Thr	
705					710					715					720	
Glu	Pro	Phe	Ile	Lys	Lys	Gly	Asp	Val	Ile	Gly	Cys	Thr	Leu	Asp	Leu	
				725					730					735		
Ser	Val	Pro	Val	Ile	Arg	Phe	Thr	Phe	Asn	Gly	Glu	Pro	Val	Gln	Gly	
			740					745					750			
Cys	Phe	Thr	Asp	Phe	Asn	Leu	Asp	Gly	Met	Phe	Phe	Pro	Val	Met	Ser	
		755					760					765				
Cys	Ser	Ser	Lys	Leu	Ser	Cys	Arg	Phe	Leu	Phe	Gly	Gly	Asp	Asn	Gly	
	770					775					780					
Arg	Leu	Lys	Phe	Asn	Pro	Pro	Pro	Gly	Phe	Ser	Pro	Leu	Val	Gln	Cys	
785					790					795					800	
Leu	Met	Pro	His	Gln	Asn	Leu	Ser	Leu	Asp	Pro	Cys	Phe	Tyr	Phe	Gly	
				805					810					815		
Asn	Leu	Asn	Lys	Asn	Val	Leu	Ala	Gly	Pro	Trp	Leu	Val	Glu	Asp	Asp	
			820					825					830			
Ser	Ala	Phe	Val	Pro	Lys	Pro	Val	Asp	Thr	Ser	Ile	Val	Thr	Leu	Pro	
			835				840					845				
Ser	Ser	Val	Glu	Thr	Ile	Lys	Asp	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	
	850					855					860					
Met	Trp	Ala	Leu	Asn	Lys	Ile	Glu	Ala	Gly	Trp	Thr	Trp	Gly	Glu	Arg	
865					870				875					880		
Arg	Asp	Asp	Val	Tyr	Arg	Ile	His	Pro	Cys	Leu	Thr	Ser	Phe	Glu	Lys	
				885					890					895		
Leu	Pro	Ala	Ala	Glu	Lys	Arg	Tyr	Asp	Cys	Gln	Leu	Ala	Val	Gln	Thr	
			900					905					910			
Leu	Lys	Thr	Ile	Leu	Ala	Leu	Gly	Tyr	Tyr	Ile	Ser	Met	Asp	Lys	Pro	
		915					920					925				

Pro Ala Arg Ile Arg Pro Ile Arg Leu Pro Asn Asp Pro Tyr Met Gln
 930 935 940
 Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala Ala Val Leu
 945 950 955 960
 Thr Pro Lys Met Glu Glu Leu Val Asp Gln Leu Ala Glu Asn Thr His
 965 970 975
 Asn Leu Trp Ala Lys Glu Arg Ile Gln Gln Gly Trp Thr Tyr Gly Leu
 980 985 990
 Asn Glu Asp Ser Glu Asn Leu Arg Ser Pro His Leu Val Pro Tyr Ser
 995 1000 1005
 Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg Asp Thr Ala Ser
 1010 1015 1020
 Glu Thr Val Arg Thr Leu Leu Ile Tyr Gly Tyr Asn Leu Asp Pro
 1025 1030 1035
 Pro Thr Gly Glu Ala Asn Glu Ala Leu Ala Ala Glu Ala Leu Arg
 1040 1045 1050
 Gln Lys Phe Ala Ala Tyr Arg Thr Tyr Arg Val Glu Arg Thr Tyr
 1055 1060 1065
 Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe Glu Val Leu Thr
 1070 1075 1080
 Ala Gly Pro Met Arg Val Gly Trp Ala Arg Ala Asp Cys Asn Pro
 1085 1090 1095
 Gly Thr Met Leu Gly Ser Asp Asp Ala Ser Trp Ala Phe Asp Gly
 1100 1105 1110
 Tyr Asn Ile Gly Gln Lys Ala Arg Val Val Tyr Gly Gln Asp Val
 1115 1120 1125
 Asp Ser Leu Lys Trp Phe Thr Thr Cys Gly Leu Gln Glu Gly Tyr
 1130 1135 1140
 Glu Pro Phe Cys Val Asn Met Lys Arg Pro Val Thr His Trp Tyr
 1145 1150 1155
 Thr Lys Asp Gln Pro Ile Phe Glu Asn Thr Asp Glu Ile Pro Glu
 1160 1165 1170
 Cys Lys Ile Asp Val Thr Arg Ile Pro Gly Gly Ala Asp Thr Pro
 1175 1180 1185
 Pro Cys Met Lys Ile Ser His Asn Thr Phe Glu Thr Met Glu Lys
 1190 1195 1200
 Ala Asn Trp Glu Phe Leu Arg Leu Ser Leu Pro Val Thr Cys Ala
 1205 1210 1215
 Asn Thr Phe Ile Thr Glu Gln Glu Lys Met Arg Arg Trp Glu Glu
 1220 1225 1230

Ile Arg 1235	Ile Arg Gln His 1240	Arg Leu Met Thr Glu Val 1245	Asp His Ser
Ala Pro 1250	Ala His Phe Asp His 1255	Ile Met Arg Ser Gly 1260	Phe Thr Met
Asn Asp 1265	Ile Lys Gly Leu His 1270	Arg Asn Tyr Ser Glu 1275	Asp Ala Ala
Glu Ala 1280	Asp Glu Met Met Arg 1285	Asn Gly Pro Arg Arg 1290	Pro Ser Arg
His Gln 1295	Gly Arg Gly Gly Leu 1300	Ser Pro Pro Gly Ile 1305	Glu Ile Asn
Gly Glu 1310	Ala Thr Ser Asp Gly 1315	Glu Leu Asn Ala Tyr 1320	Ser Asp Asn
Glu Leu 1325	Glu Gly Gly Asp Asp 1330	Arg Lys Lys Arg Gly 1335	Arg Ser Pro
Phe Arg 1340	Leu Phe Gly Lys Lys 1345	Arg Asp Gln Ser Lys 1350	Asp Lys Leu
Lys Asp 1355	Arg Arg Thr Pro Glu 1360	Pro Glu Pro Arg Lys 1365	Ser Asn Leu
Lys Val 1370	Thr Gln Arg Gly Gln 1375	Ala Thr Arg Met Ser 1380	Asn Ser Asp
Leu Arg 1385	Ala Gln Ala Pro Leu 1390	Thr Pro Glu Arg Lys 1395	Gly Met Gly
Ser Pro 1400	Gln Val Glu Ser Phe 1405	Gly Asn Glu Val Tyr 1410	Asp Ala Asp
Cys Leu 1415	Arg Leu Ile Asn Glu 1420	Tyr Phe Tyr Gly Val 1425	Arg Ile Phe
Pro Gly 1430	Gln Asp Pro Thr His 1435	Val Tyr Val Gly Trp 1440	Val Thr Thr
Gln Tyr 1445	His Val His Ser Lys 1450	Glu Phe Ser Gln Asn 1455	Lys Val Arg
His Ala 1460	Ala Ile Tyr Val Glu 1465	Asp Glu Asn Glu Lys 1470	Thr Ile Glu
Ile Val 1475	Asn Arg Gln Ser Cys 1480	Tyr Met Val Arg Ala 1485	Asp Glu Leu
Phe Asn 1490	Glu Val Thr Gln Asp 1495	Ser Ser Gly Lys Gly 1500	Ala Ser Gln
Gly Met 1505	Phe Val Gly Cys Phe 1510	Val Asp Thr Ala Thr 1515	Gly Thr Ile
Arg Phe 1520	Thr Cys Glu Gly Lys 1525	Glu Thr Ser His Val 1530	Phe Leu Met

Glu	Pro	Asp	Thr	Lys	Leu	Phe	Pro	Ala	Ile	Phe	Val	Glu	Ala	Thr
1535						1540					1545			
Ser	Lys	Glu	Ile	Leu	Gln	Ile	Glu	Leu	Gly	Arg	Thr	Pro	Thr	Thr
1550						1555					1560			
Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro	Thr	Ser	Asp	Lys	His	Ile
1565						1570					1575			
Asn	Pro	Gln	Phe	Pro	Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu	Lys	Pro
1580						1585					1590			
His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Thr	Ala	Leu	Gln	Val	His	Ala
1595						1600					1605			
Leu	Lys	Leu	Ser	Asp	Ile	Arg	Gly	Trp	Ser	Met	Leu	Cys	Glu	Asp
1610						1615					1620			
Pro	Val	Ser	Met	Leu	Ala	Leu	His	Ile	Pro	Glu	Glu	Asp	Arg	Cys
1625						1630					1635			
Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Ile	Asp	Arg	Leu	Leu	Gln	Phe
1640						1645					1650			
His	Ala	His	Thr	Leu	Thr	Leu	Tyr	Ser	Ala	Leu	Cys	Tyr	Gln	Ser
1655						1660					1665			
Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys	Ser	His	Val	Asp	Gln	Lys
1670						1675					1680			
Gln	Leu	Leu	Tyr	Ala	Ile	Gln	Ser	Glu	Tyr	Met	Ser	Gly	Pro	Leu
1685						1690					1695			
Arg	Leu	Gly	Phe	Tyr	Asp	Leu	Leu	Ile	Ser	Leu	His	Leu	Glu	Ser
1700						1705					1710			
His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys	Asn	Glu	Tyr	Ile	Ile	Pro
1715						1720					1725			
Leu	Gly	Ser	Glu	Leu	Arg	Glu	Leu	Tyr	Ile	Asp	Pro	Glu	Met	Cys
1730						1735					1740			
His	Ser	Leu	Arg	Ser	Leu	Gln	Thr	Leu	Ser	Val	Arg	Pro	Glu	Met
1745						1750					1755			
Asn	Met	Thr	Glu	Ile	Ala	Pro	Thr	Pro	Ser	Gln	Ser	Asn	Met	Pro
1760						1765					1770			
Thr	Ile	Val	Ala	Pro	Asp	Ser	Ser	Ser	Glu	Pro	Ile	Pro	Ala	Ile
1775						1780					1785			
Asp	Ser	Leu	Tyr	Ser	Pro	Arg	Phe	Pro	Leu	Glu	Val	Val	Arg	Glu
1790						1795					1800			
Phe	Val	Met	Ser	Ala	Leu	Gln	Glu	Ala	Val	Gln	Ile	Asn	Gln	Val
1805						1810					1815			
His	Asn	Arg	Asp	Pro	Ile	Gly	Gly	Ser	Asn	Glu	Asn	Leu	Phe	Leu
1820						1825					1830			

Pro	Leu	Ile	Lys	Leu	Ile	Asp	Arg	Leu	Leu	Leu	Val	Gly	Val	Ile
1835						1840					1845			
Thr	Asn	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile	Met	Ile	Asp	Pro	Glu
1850						1855					1860			
Thr	Trp	Asp	Pro	Ser	Phe	Glu	Lys	Glu	Gly	Arg	Asp	Glu	His	Arg
1865						1870					1875			
Lys	Gly	Leu	Leu	Thr	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys	Leu	Gln
1880						1885					1890			
Met	Cys	Tyr	Leu	Leu	His	His	Leu	Tyr	Asp	Val	Gln	Leu	Arg	His
1895						1900					1905			
Arg	Val	Glu	Ser	Ile	Ile	Ala	Phe	Ala	His	Asn	Tyr	Val	Gly	Asp
1910						1915					1920			
Leu	Gln	Gln	Asp	Gln	Leu	Arg	Arg	Tyr	Ile	Glu	Ile	Lys	Gln	Ser
1925						1930					1935			
Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Arg	Glu	Phe	Arg
1940						1945					1950			
Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile	Leu	Gly	Tyr	Lys	Asn
1955						1960					1965			
Leu	Glu	Glu	Asp	Asp	Leu	Glu	Asn	Ala	Ser	Cys	Gly	Pro	Glu	Leu
1970						1975					1980			
Arg	Asn	Arg	Leu	Ile	Glu	Phe	His	Glu	Lys	Leu	Met	Gly	Lys	Val
1985						1990					1995			
Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Lys
2000						2005					2010			
Leu	Glu	Glu	Gly	Arg	Pro	Gly	Ala	Met	Lys	Lys	Leu	Tyr	Asn	Phe
2015						2020					2025			
Ile	Asn	Ala	Val	Lys	Glu	Leu	Glu	Glu	Asp	Pro	Lys	Glu	Pro	Val
2030						2035					2040			
Glu	Glu	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys	Val	Leu
2045						2050					2055			
Ile	Lys	Gln	Leu	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile	Glu	Asn
2060						2065					2070			
Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Gly	Leu	Leu	Val	Arg	Gln	Tyr
2075						2080					2085			
Asp	Thr	Ile	Gly	Glu	Leu	Ile	Lys	Ala	Leu	Asn	Lys	Thr	Tyr	Val
2090						2095					2100			
Ile	Asn	Ser	Lys	Thr	Lys	Gly	Asp	Val	Ala	Asn	Met	Trp	Ile	Gly
2105						2110					2115			
Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln	Glu
2120						2125					2130			

Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val	Asn	Asn
2135						2140					2145			
His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu	Arg	Val
2150						2155					2160			
His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly	Arg	Arg
2165						2170					2175			
Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Val	Gln	Thr	Ala	Asp	Gly	Glu
2180						2185					2190			
Glu	Ser	Ala	Pro	Lys	Glu	Lys	Asp	Thr	Ser	His	Gln	Met	Val	Val
2195						2200					2205			
Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly	Arg	Met
2210						2215					2220			
Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu	Glu	Asn
2225						2230					2235			
Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr	Pro
2240						2245					2250			
Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu	Ala
2255						2260					2265			
Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Ile	Tyr	Leu
2270						2275					2280			
Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Ile	Glu	Arg	Gly
2285						2290					2295			
Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg	Tyr	Leu
2300						2305					2310			
Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser	Val	Glu
2315						2320					2325			
Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg	Pro	Glu
2330						2335					2340			
Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu	Leu	Lys
2345						2350					2355			
Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile	Ser	Glu	Arg
2360						2365					2370			
Arg	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Thr	Gly	Leu	Asn
2375						2380					2385			
Phe	Ser	His	Pro	Leu	Pro	Glu	Gly	Asp	Asp	Asp	Glu	Asp	Tyr	Ile
2390						2395					2400			
Asp	Thr	Gly	Ala	Ala	Ile	Leu	Cys	Phe	Tyr	Cys	Thr	Leu	Val	Asp
2405						2410					2415			
Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ala	Val	Ile	Glu	Gln	Gly
2420						2425					2430			

Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser	Leu	Val
2435						2440					2445			
Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe	Thr	Leu
2450						2455					2460			
Thr	Asn	Pro	Ala	Leu	Gly	Glu	Asp	Arg	Pro	Lys	Ser	Asp	Met	Pro
2465						2470					2475			
Ser	Gly	Leu	Val	Pro	Gly	His	Lys	Gln	Ser	Ile	Val	Leu	Phe	Leu
2480						2485					2490			
Glu	Arg	Val	Tyr	Gly	Ile	Glu	Thr	Gln	Glu	Leu	Phe	Tyr	Arg	Leu
2495						2500					2505			
Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	Ala	Thr	Met	Leu
2510						2515					2520			
Asp	Arg	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ser	Met	Asn
2525						2530					2535			
Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys	His	Ser
2540						2545					2550			
Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu	Asp	Ala
2555						2560					2565			
Thr	Leu	His	Thr	Val	Tyr	Arg	Met	Ser	Lys	Asn	Arg	Met	Leu	Thr
2570						2575					2580			
Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu	Thr
2585						2590					2595			
Ser	Ala	Met	His	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys	Leu
2600						2605					2610			
Thr	Ile	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala	Leu
2615						2620					2625			
Arg	Leu	Leu	Thr	Leu	His	Tyr	Glu	Arg	Cys	Ala	Lys	Tyr	Tyr	Gly
2630						2635					2640			
Thr	Thr	Gly	Gly	Gly	Gln	Ala	Ser	Gln	Phe	Gly	Ala	Ser	Ser	Asp
2645						2650					2655			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2660						2665					2670			
Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2675						2680					2685			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2690						2695					2700			
Ser	Leu	Ser	Lys	Asn	Ser	Asp	Asp	Asp	Leu	Tyr	Gly	Lys	Pro	Thr
2705						2710					2715			
Gly	Gly	Gly	Pro	Asp	Gln	Pro	His	Tyr	Asn	Pro	Gln	Pro	Ile	Asp
2720						2725					2730			

Thr	Thr	Ala	Val	Gln	Leu	Thr	Asn	Asp	Leu	Asn	Gln	Ile	Val	Gln
2735						2740					2745			
Lys	Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Lys	Leu
2750						2755					2760			
Glu	Asn	Gly	Trp	Thr	Tyr	Gly	Asp	Gln	Trp	Ser	Asp	Ala	Asn	Lys
2765						2770					2775			
Thr	His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Thr	Leu	Ser	Glu	Tyr	Glu
2780						2785					2790			
Arg	Glu	Arg	Tyr	Arg	Glu	Pro	Val	Arg	Glu	Ser	Leu	Lys	Ala	Leu
2795						2800					2805			
Leu	Ala	Leu	His	Trp	Arg	Ile	Glu	His	Ser	Glu	Gly	Asp	Val	Pro
2810						2815					2820			
Leu	Ser	Asn	Arg	Gly	Ser	Met	Arg	Arg	Gln	Ser	Lys	Pro	Asn	Leu
2825						2830					2835			
Glu	Leu	Gln	Gly	Asp	Thr	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His
2840						2845					2850			
Pro	Val	Asp	Met	Thr	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn
2855						2860					2865			
Met	Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys
2870						2875					2880			
Lys	Lys	Asn	Glu	Glu	Leu	Asp	Gln	Cys	Gly	Gly	Ala	Ile	His	Ala
2885						2890					2895			
Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Arg	Lys
2900						2905					2910			
Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Leu	Gln	Tyr	Gln
2915						2920					2925			
Gly	Leu	Lys	Leu	His	Lys	Pro	Ser	Arg	Gly	Gln	Thr	Glu	Glu	Pro
2930						2935					2940			
Gly	Met	Ser	Thr	Ala	Ala	Ile	Glu	Leu	Arg	Phe	Ala	Tyr	Ser	Leu
2945						2950					2955			
Leu	Glu	Lys	Leu	Ile	Ser	Tyr	Ser	Asp	Arg	Ala	Thr	Ile	Asn	Met
2960						2965					2970			
Lys	Leu	Leu	Lys	Pro	Ser	Ser	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe
2975						2980					2985			
Lys	Thr	Cys	Ser	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu
2990						2995					3000			
Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Ser	Asn	Arg	Asn	Tyr	Phe	Ile
3005						3010					3015			
Ala	Ile	Ala	Thr	Ala	Thr	Asn	Asn	Val	Gly	Ala	Ala	Ser	Leu	Lys
3020						3025					3030			

Glu	Lys	Glu	Met	Val	Ala	Gly	Leu	Phe	Cys	Lys	Leu	Ala	Ser	Leu
3035						3040					3045			
Leu	Arg	His	Arg	Leu	Ala	Ala	Phe	Gly	Ala	Asp	Val	Arg	Ile	Thr
3050						3055					3060			
Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Ser	Ile	Asp	Ala	Lys	Ser
3065						3070					3075			
Leu	Val	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr
3080						3085					3090			
Phe	Phe	Asn	Asn	Thr	Ala	Asp	Asp	Leu	Gly	Gln	Thr	Ile	Val	Asn
3095						3100					3105			
Leu	Thr	Asp	Gly	Lys	Tyr	Asp	Arg	Leu	Arg	Gly	Thr	His	Leu	Lys
3110						3115					3120			
Thr	Ser	Thr	Ser	Leu	Ala	Tyr	Val	Asn	Gln	Val	Ile	Leu	Pro	Val
3125						3130					3135			
Leu	Thr	Ser	Leu	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser
3140						3145					3150			
Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu
3155						3160					3165			
Ser	Ala	Leu	Tyr	Thr	Leu	Gly	Thr	Asp	Thr	Ser	Leu	Thr	Arg	Asp
3170						3175					3180			
Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Leu	Glu	Arg	His	Lys	Pro	Ala	Leu
3185						3190					3195			
Gly	Ser	Cys	Leu	Gly	Ala	Phe	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe
3200						3205					3210			
Leu	Glu	Pro	His	Ala	Asn	Lys	His	Asn	Pro	Phe	Ser	Leu	Leu	Asn
3215						3220					3225			
Arg	Ile	Ala	Asp	Thr	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Ser	Lys
3230						3235					3240			
Met	Glu	Ser	Cys	Met	Pro	Thr	Leu	Glu	Ser	Ile	Leu	Ser	Glu	Val
3245						3250					3255			
Asp	Gln	Phe	Val	Glu	Ser	Glu	Lys	Thr	Tyr	Gln	Glu	Ala	Gln	His
3260						3265					3270			
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3275						3280					3285			
Trp	Trp	Asn	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Gln	Ser	Gly	Asn
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3320						3325					3330			

Pro	Trp	Met	Thr	Arg	Ile	Ala	Thr	Tyr	Thr	Gln	Gln	Ile	Ile	Ile
3335						3340					3345			
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3350						3355					3360			
Glu	Arg	Val	Lys	Lys	Arg	Cys	Asp	Ser	Met	Phe	His	Lys	Glu	Glu
3365						3370					3375			
Ser	Leu	Arg	Gly	Phe	Leu	Lys	Ser	Ser	Thr	Asp	Asp	Thr	Ser	Gln
3380						3385					3390			
Ile	Glu	Ala	Gln	Ile	Gln	Glu	Asp	Trp	Gln	Leu	Leu	Val	Arg	Asp
3395						3400					3405			
Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln
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Arg	Asn	His	Trp	Leu	Lys	Asp	Asn	Val	Ala	Glu	Ala	Glu	Glu	Leu
3425						3430					3435			
Tyr	Asn	Tyr	Val	Ala	Glu	Ile	Phe	Asn	Val	Trp	Ser	Lys	Ser	Gln
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Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile
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Asp	Asn	Met	Thr	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala
3470						3475					3480			
Ala	Val	Ser	Gly	Asp	Met	Pro	Ala	Ser	Gly	Gly	Lys	Val	Lys	Lys
3485						3490					3495			
Lys	Lys	Arg	Ser	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Ile
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Gln	Ser	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val
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Gly	Leu	Asn	Leu	Phe	Ala	Gly	Lys	Glu	Gln	Glu	Leu	Val	Gln	His
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Cys	Lys	Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Glu	Val	Ile
3545						3550					3555			
Glu	Phe	Ala	Arg	Thr	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro
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Ala	Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly
3575						3580					3585			
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3590						3595					3600			
Lys	Pro	Glu	Asn	Lys	Ile	Glu	Asp	Thr	Val	Glu	Arg	Ile	Val	Ala
3605						3610					3615			
Met	Ala	Lys	Val	Leu	Tyr	Gly	Leu	His	Met	Glu	Gln	Glu	Met	Glu
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3650						3655					3660			
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3680						3685					3690			
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Val	Phe	Asn	Thr	Leu	Thr	Glu	Val	Ile	Gln	Gly	Pro	Cys	Thr	Gln
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Asn	Gln	Gln	Ala	Leu	Ala	His	Ser	Arg	Leu	Trp	Asp	Ala	Val	Gly
3845						3850					3855			
Gly	Phe	Leu	Phe	Leu	Phe	Ser	His	Met	Gln	Asp	Lys	Leu	Ser	Lys
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His	Ser	Ser	Gln	Val	Asp	Leu	Leu	Lys	Glu	Leu	Leu	Asn	Leu	Gln
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Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln	Met	Val	Asp	Thr	Leu	Val	Glu
3905						3910					3915			
Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile	Leu	Lys	Tyr	Phe	Asp	Met	Phe
3920						3925					3930			

Leu Lys	Leu Lys Asp	Leu Thr	Ser Thr	Pro Ser	Phe	Met Glu Ile
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Asp Ser	Asn Gly Asp Gly	Trp	Ile Met	Pro Lys	Asp	Phe Arg Glu
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Lys Met	Glu Gln Gln Lys	Ser	Tyr Thr	Pro Glu	Glu	Ile Asp Phe
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Leu Leu	Ala Cys Cys Glu	Thr	Asn His	Asp Gly	Lys	Ile Asp Tyr
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Ile Gly	Phe Val Asp Arg	Phe	His Glu	Pro Ala	Lys	Glu Ile Gly
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Ser Ser	Lys Arg Ile Glu	Arg	Val Tyr	Phe Glu	Ile	Lys Glu Ala
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Asn Ile	Glu Gln Trp Glu	Lys	Pro Gln	Ile Lys	Glu	Ser Lys Arg
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Ala Phe	Phe Tyr Ser Ile	Val	Thr Glu	Gly Gly	Asp	Lys Glu Lys
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Val Arg	Arg Asp Gln Ala	Phe	Thr Tyr	Ile Ser	Glu	Glu Glu Glu
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Glu Arg	Ala Ala Arg Asp	Pro	Ile Lys	Arg Thr	Ile	Gln Ala Val
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Lys Asp	Gly Leu Ser Tyr	Ser	Met Tyr	Met Ile	Ser	Pro Ser Asn
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Ile Lys	His Gln Ile Thr	Val	Leu Gln	Ser Lys	Ser	Phe Pro Glu
4175		4180			4185	
Ile Ile	Val Gly Phe Phe	Lys	Met Ile	Phe Tyr	Ala	Phe Tyr Tyr
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Ser Gly	Phe Gly Val Ser	Val	Val Ile	Lys Tyr	Leu	Val Asn Ile
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Leu Met	Ser Leu Met Arg	Gly	Pro Ala	Gln Glu	Glu	Glu Glu Pro
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Ile	Pro	Glu	Ala	Glu	Pro	Ser	Leu	Arg	Ala	Leu	Pro	Pro	Leu	Pro
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4340						4345					4350			
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Gln	Ser	Val	Thr	His	Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Met
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4670						4675					4680			
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4685						4690					4695			
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Gly	Ile	Gly	Lys	Asp	Tyr	Phe	Asp	Lys	Val	Pro	His	Gly	Phe	Asp
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Glu Thr Tyr Val Trp Asn Met Tyr Gln Gln Arg Cys Trp Asp Phe
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Gly Gly Gly Gly Ser
 4865

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<211> 5071

<212> PRT

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<400> 58

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 20 25 30

Asn Arg Asp Gly Val Leu Gly Ser Glu Arg Val Cys Leu Cys Thr Glu
 35 40 45

Gly Phe Gly Asn Arg Met Cys Thr Leu Glu Asn Val Ser Asp Lys Asp
 50 55 60

Ile Pro Pro Asp Ile Ala Met Cys Met Leu Tyr Ile Asp Asn Ala Leu
 65 70 75 80

Ser Met Arg Ala Leu Gln Glu Met Met Ser Ala Asp Ser Asp His Lys
 85 90 95

Ser Ala Ser Gly Ala Gly Gly His Lys Thr Leu Leu Tyr Gly His Ala
 100 105 110

Val Gln Leu Lys His Val Gln Ser Glu Met Tyr Leu Ala Cys Leu Ser
 115 120 125

Ser Cys Ser Ser Asn Asp Lys Leu Ala Phe Asp Val Gly Val Gln Glu
 130 135 140

Thr Asn Glu Gly Glu Ala Cys Trp Trp Thr Ile His Pro Ala Ser Lys
 145 150 155 160

Gln Arg Ser Glu Gly Glu Lys Val Arg Val Gly Asp Asp Val Ile Leu
 165 170 175

Val Ser Val Ala Thr Glu Arg Tyr Leu His Met Ala Tyr Ser Lys Gly
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Tyr Met Val Ile Ala Ser Phe His Gln Thr Leu Trp Asn Ile Gln Ser
 195 200 205

Val Ser Ser Gly Ser Met Arg Thr Arg Asn Met Gly Phe Leu Phe Gly
 210 215 220

Asn Asp Val Leu Arg Leu Phe His Gly Asn Asp Glu Cys Leu Thr Ile
 225 230 235 240

Pro Glu Asn Trp Ser Glu His Pro Gln His Asn Met Val Ile Tyr Glu
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 Gly Gly Ala Ala Val Thr Gln Ala Arg Ser Leu Trp Arg Val Glu Leu
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 Ile Arg Met Lys Trp His Gly Ala Leu Val Gly Trp Glu Gln Val Phe
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 Arg Ile Lys His Ile Thr Ser Gly Arg Tyr Leu Gly Val Leu Asp Asn
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 Ser Val Gln Leu Tyr His Lys Glu Lys Ala Asp Phe Asp Leu Thr Ala
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 Phe Val Met Cys Gln Asn Lys Asp Pro Lys Lys Gln Met Leu Asp Glu
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 Lys Glu Glu Glu Gly Met Gly Asn Ala Thr Ile Arg Tyr Gly Glu Thr
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 Asn Ala Phe Ile Gln His Val Lys Thr Gln Leu Trp Leu Ser Tyr Gln
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 Thr Thr Glu Val Thr Lys Lys Gly Leu Gly Lys Val Glu Glu Lys Lys
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 Ala Val Ala Leu Lys Asp Gly His Met Asp Asp Cys Tyr Thr Phe Phe
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 Met Ala Leu Glu Glu Glu Ser Lys Ser Ala Arg Val Ile Arg Lys Cys
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 Ser Ser Val Leu Asn Lys Phe Leu Lys Gly Ile Asp Ala Leu Gln Leu
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 Glu Gly Asn Gln Ser Thr Asp Trp Thr Arg Val Asp Leu Asn Glu Val
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 Leu Lys Leu Met Glu Asp Leu Ile Glu Tyr Phe Ala Gln Pro Asn Asp
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 Glu Gln Asp Phe Glu Glu Lys Gln Asn His Leu Arg Ala Leu Arg Ser
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 Arg Gln Asp Leu Phe Gln Glu Glu Gly Val Leu Asn Met Ile Leu Asp
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 Thr Ile Asp Lys Phe Ser Gln Met Glu Ala Leu Pro Asp Phe Ala Gly
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 Leu Ile Gly Glu Glu Thr His Val Lys Trp Glu Gln Ile Ser Thr Tyr
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 Leu Tyr Leu Leu Val Ala Ala Met Ile Lys Gly Asn His Tyr Asn Cys
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 Ala Gln Phe Ala Ser Ala Gln Arg Leu Asp Trp Leu Phe Gly Arg Leu
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Phe	Glu	Ala	Glu	Val	Glu	His	Ile	Glu	Thr	Met	Thr	Lys	Gln	Thr	Pro	
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Tyr	Leu	Arg	Ile	Gly	Trp	Ala	Asn	Ser	Val	Gly	Phe	Lys	Pro	Phe	Pro	
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Met	Ser	Gly	Ser	Phe	Lys	Lys	Phe	Asn	Ile	Asp	Gly	Tyr	Phe	Phe	Pro	
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His	Glu	Leu	Trp	Ala	Met	Arg	Lys	Ile	Glu	Leu	Gly	Trp	Ser	Tyr	Gly		
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Phe	Leu	Glu	Pro	Pro	Ala	His	Glu	His	Asp	Glu	Val	Ala	Glu	Lys			
	1055					1060					1065						
Glu	Leu	Arg	Ala	Arg	Lys	Asp	Asn	Thr	Arg	Thr	Tyr	Arg	Ala	Glu			
	1070					1075					1080						
Ala	Thr	Tyr	Ala	Val	Cys	Gly	Gly	Lys	Trp	Tyr	Phe	Glu	Phe	Glu			
	1085					1090					1095						
Ile	Leu	Thr	Ala	Gly	Tyr	Met	Lys	Ile	Gly	Trp	Met	Asp	Ile	Gly			
	1100					1105					1110						
Ser	Thr	Pro	Glu	Ile	Gln	Leu	Gly	Ala	Asp	Asp	Arg	Ser	Tyr	Ala			
	1115					1120					1125						
Phe	Asp	Gly	Tyr	Leu	Gly	Arg	Lys	Trp	His	Gln	Gly	Ala	Glu	Thr			
	1130					1135					1140						
Tyr	Gly	Lys	Glu	Trp	Lys	Ile	Gly	Asp	Val	Val	Gly	Cys	Phe	Leu			
	1145					1150					1155						
Asp	Leu	Asn	Asp	Arg	Thr	Ile	Ser	Phe	Ser	Leu	Asn	Gly	Glu	Leu			
	1160					1165					1170						
Leu	Leu	Asp	Pro	Ser	Gly	Ser	Glu	Met	Ala	Phe	Asp	Asn	Val	Val			
	1175					1180					1185						

Pro	Leu	Ser	Gly	Pro	Gly	Arg	Gln	Leu	Thr	Ile	Lys	Arg	Ser	Ser
1490						1495					1500			
Ile	Lys	Lys	Asn	Lys	Lys	Gly	Lys	Lys	Ala	Glu	Ile	Ala	Leu	Glu
1505						1510					1515			
Lys	Met	Glu	Arg	Glu	Lys	Lys	Gly	Ser	Ile	Ile	Pro	Met	Asp	Ala
1520						1525					1530			
Gln	Leu	Asp	Val	Leu	Gln	Glu	Gly	Asp	Ala	His	Ala	Leu	Val	His
1535						1540					1545			
His	Lys	Asp	Lys	Val	Asp	Glu	Tyr	Tyr	Tyr	Gly	Ile	Arg	Ile	Phe
1550						1555					1560			
Pro	Gly	Gln	Asp	Pro	Ser	Gln	Val	Trp	Val	Gly	Trp	Val	Thr	Thr
1565						1570					1575			
Gln	Tyr	His	Tyr	Tyr	Asn	Val	Asn	Phe	Asp	Gly	Ser	Gln	Gly	Val
1580						1585					1590			
Arg	Lys	Cys	Arg	Phe	Ser	Glu	Ala	Asp	His	His	Gly	Thr	Thr	Val
1595						1600					1605			
Asp	Ser	Val	Gln	Ser	Gln	Asn	Cys	Tyr	Met	Val	Asn	Val	Ser	Glu
1610						1615					1620			
Leu	Leu	Ala	Thr	Thr	Pro	Asp	Val	Ala	Asn	Thr	Lys	Val	Ser	Gly
1625						1630					1635			
Thr	Leu	Ile	Gly	Cys	Ile	Ile	Asp	Thr	Ser	Ile	Gly	Glu	Leu	Ser
1640						1645					1650			
Phe	Gln	Val	Gly	Ser	Thr	Asp	Thr	Gly	Ile	Lys	Phe	Lys	Leu	Glu
1655						1660					1665			
Pro	Gly	Ala	Met	Leu	Phe	Pro	Ala	Ala	Phe	Val	Thr	Pro	Thr	Ala
1670						1675					1680			
Thr	Glu	Ile	Leu	Gln	Phe	Glu	Leu	Gly	Arg	Ile	Lys	Tyr	Thr	Phe
1685						1690					1695			
Pro	Leu	Ser	Ala	Ala	Met	Phe	Lys	Ser	Cys	Glu	Lys	Ser	Leu	Val
1700						1705					1710			
Pro	Phe	Cys	Pro	Pro	Arg	Leu	Thr	Val	Glu	Gln	Ile	Glu	Ser	Val
1715						1720					1725			
Tyr	Trp	Ala	Arg	Val	Pro	Asn	Glu	Thr	Leu	Arg	Thr	Thr	Ala	Leu
1730						1735					1740			
Lys	Leu	Ser	Glu	Val	Arg	Gly	Trp	Ser	Val	Leu	Cys	Asn	Asp	Pro
1745						1750					1755			
Val	Arg	Ile	Met	Ser	Val	Tyr	Ile	Pro	Glu	Lys	Asp	Gln	Ser	Leu
1760						1765					1770			
Asp	Ile	Leu	Glu	Met	Ile	Glu	Met	Pro	Asp	Met	Leu	Glu	Phe	His
1775						1780					1785			

Arg	Gln	Thr	Leu	Asn	Leu	Tyr	Cys	Lys	Leu	Ala	Ser	His	Gly	Asn
1790						1795					1800			
His	Lys	Val	Ala	His	Thr	Leu	Cys	Gln	His	Ile	Asp	Glu	Asp	Gln
1805						1810					1815			
Ile	Met	Tyr	Ala	Ile	Lys	Ser	His	Tyr	Leu	Ser	Gly	Pro	Met	Arg
1820						1825					1830			
Gln	Gly	Phe	His	Asp	Leu	Leu	Ile	Gly	Leu	His	Leu	Met	Ser	His
1835						1840					1845			
Thr	Ala	Ala	Arg	Asn	Ser	Met	Ala	Lys	Glu	Tyr	Val	Ile	Pro	Leu
1850						1855					1860			
Val	Pro	Gln	Leu	Gln	Ile	Lys	Asn	Val	Leu	Asp	Pro	Asp	Ser	Glu
1865						1870					1875			
Ser	Arg	Tyr	Pro	Gln	Ile	Thr	Gly	Glu	Ser	Val	Ser	Met	Leu	Ser
1880						1885					1890			
Gln	Met	Ala	Ser	Glu	Pro	Val	Lys	Lys	His	Val	Ser	Arg	Glu	Asp
1895						1900					1905			
Glu	Met	Lys	Leu	Leu	Pro	Pro	Ser	Val	Asp	Phe	Glu	Ala	Leu	Lys
1910						1915					1920			
Lys	His	Val	Met	Glu	Ser	Leu	Gln	Ser	Ala	Thr	His	His	Ala	Val
1925						1930					1935			
Met	Asn	Cys	Arg	Asp	Leu	Ile	Gly	Gly	Asp	Asn	Thr	Asn	His	Phe
1940						1945					1950			
Glu	Pro	Leu	Phe	Lys	Leu	Phe	Asp	Gln	Leu	Leu	Val	Ile	Gly	Leu
1955						1960					1965			
Ile	Asn	Asp	Glu	Glu	Leu	Glu	Cys	Leu	Leu	Arg	Leu	Ile	His	Pro
1970						1975					1980			
Gln	Ala	Phe	Asp	Glu	Asn	Tyr	Glu	Thr	Gly	Thr	Thr	Gln	Lys	Gly
1985						1990					1995			
Leu	Thr	Gln	Leu	Glu	Leu	Ala	Glu	Pro	Val	Lys	Ile	Gln	Leu	Val
2000						2005					2010			
Ser	Ile	Leu	Asp	His	Leu	Cys	Asp	Ile	Gln	Leu	Arg	Tyr	Arg	Ile
2015						2020					2025			
Glu	Ser	Leu	Val	Ala	Phe	Thr	Glu	Gly	Phe	Val	Gly	Glu	Leu	Gln
2030						2035					2040			
Ser	Asp	Gln	Cys	Lys	Arg	Tyr	Met	Glu	Ile	Lys	Gln	Thr	Asp	Met
2045						2050					2055			
Pro	Pro	Ala	Glu	Ala	Ala	Lys	Lys	Thr	Lys	Glu	Phe	Arg	Cys	Pro
2060						2065					2070			
Pro	Lys	Glu	Gln	Met	Phe	Arg	Leu	Leu	Met	Cys	Lys	Val	Lys	Glu
2075						2080					2085			

Glu	Arg	Asp	Pro	Glu	Leu	Met	Glu	Glu	Asp	Ala	Asp	Val	Asp	Gln
2090						2095					2100			
Cys	Pro	Met	Ala	Glu	Gly	Leu	Gln	Gln	Gln	Leu	Arg	Asp	Phe	Cys
2105						2110					2115			
Glu	Leu	Leu	Val	Gly	Lys	Ile	Gly	Asn	Val	Lys	Glu	Gly	Asp	Ser
2120						2125					2130			
Asp	Asp	Gln	Leu	Ala	Leu	Ile	Glu	Ser	Glu	Glu	Gly	Ser	Trp	Val
2135						2140					2145			
Asp	Ser	Phe	Ala	Arg	Ile	Val	Val	Lys	Val	Pro	Pro	Pro	Val	Leu
2150						2155					2160			
Glu	Glu	Gly	Met	Glu	Met	Gln	Lys	Lys	Gly	Thr	Gln	Asn	Phe	Arg
2165						2170					2175			
Glu	Ile	Ile	Val	Thr	Met	Leu	Arg	Glu	Trp	Ala	Gln	Ala	Asp	Phe
2180						2185					2190			
Ile	Glu	Ser	Lys	Ser	Leu	Ile	Arg	Asn	Met	Phe	Arg	Leu	Leu	Leu
2195						2200					2205			
Arg	Gln	Tyr	Ser	Gly	Ile	Arg	Glu	Ile	Arg	Asp	Ala	Met	Ser	Gln
2210						2215					2220			
Thr	Tyr	Val	Phe	His	Glu	Arg	Asn	Glu	Lys	Asp	Val	Thr	Asp	Phe
2225						2230					2235			
Leu	Val	Tyr	Leu	Ile	Gln	Ile	Arg	Glu	Leu	Leu	Thr	Val	Gln	Phe
2240						2245					2250			
Glu	His	Thr	Glu	Glu	Ala	Ile	Leu	Lys	Arg	Gly	Leu	Trp	Lys	Leu
2255						2260					2265			
Met	Asn	Asn	Arg	Ile	Phe	Phe	Gln	His	Pro	Asp	Leu	Met	Arg	Leu
2270						2275					2280			
Leu	Ser	Val	His	Glu	Asn	Val	Met	Ser	Ile	Met	Met	Asn	Ile	Leu
2285						2290					2295			
Thr	Ala	Gln	Gln	Gly	Thr	Val	Glu	His	Glu	Gly	Asp	Glu	Leu	Lys
2300						2305					2310			
Glu	Lys	Ala	Pro	Ile	Lys	Asp	Ala	Ser	Glu	Met	Val	Val	Ala	Cys
2315						2320					2325			
Ser	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Ser	Arg	Gln	Asn	Gln
2330						2335					2340			
Lys	Ala	Met	Phe	Glu	His	Leu	Ser	Phe	Leu	Leu	Asp	Asn	Ala	Thr
2345						2350					2355			
Met	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Val	Pro	Leu	Asp
2360						2365					2370			
Val	Ala	Tyr	Ser	Ser	Phe	Met	Asp	Asn	Asn	Glu	Leu	Ala	Leu	Ala
2375						2380					2385			

Leu Lys	Glu Glu Glu Leu	Asp	Lys Val Ala Val	Tyr	Leu Ser Arg
2390		2395		2400	
Cys Gly	Leu Gln Pro Asn	Ser	Glu Leu Ile Thr	Lys	Gly Tyr Pro
2405		2410		2415	
Asp Ile	Gly Trp Asp Pro	Val	Glu Gly Glu Arg	Tyr	Ile Asp Phe
2420		2425		2430	
Leu Arg	Phe Cys Val Trp	Ile	Asn Gly Glu Asn	Val	Glu Glu Asn
2435		2440		2445	
Ala Asn	Leu Val Ile Arg	Leu	Leu Ile Arg Arg	Pro	Glu Cys Leu
2450		2455		2460	
Gly Val	Ala Leu Lys Gly	Glu	Gly Gln Gly Leu	Phe	Ser Ala Phe
2465		2470		2475	
Lys Glu	Ala Ile Ala Leu	Ser	Glu Asp Ile Arg	Leu	Leu Glu Asn
2480		2485		2490	
Asp Ser	His Pro Ser Leu	Leu	Ser Ser Gly Leu	Leu	Gly Glu Asn
2495		2500		2505	
Pro Thr	Tyr Pro Ser Lys	Asp	Ala Glu Gly Glu	Asp	Tyr Ile Asp
2510		2515		2520	
Leu Gly	Ala Ala Thr Leu	Asp	Phe Tyr Ser Ser	Leu	Val Asp Leu
2525		2530		2535	
Leu Ala	Lys Cys Ala Pro	Asp	Pro Met Ala Ile	Gln	Ala Gly Lys
2540		2545		2550	
Gly Asp	Ser Leu Arg Ala	Arg	Ala Ile Leu Arg	Ser	Leu Ile Ser
2555		2560		2565	
Leu Asp	Asp Leu Gly Gln	Ile	Leu Ala Leu Arg	Phe	Thr Ile Pro
2570		2575		2580	
Asn Leu	Ala Ala Pro Ser	Ile	Glu Asp Thr Gly	Pro	Leu Pro Gly
2585		2590		2595	
Leu Leu	Pro Asn His Lys	Gly	Ser Val Leu Leu	Phe	Leu Asp Arg
2600		2605		2610	
Val Tyr	Gly Ile Asp Gln	Gln	Asp Met Leu Phe	His	Val Leu Glu
2615		2620		2625	
Gln Ser	Phe Leu Pro Asp	Leu	Arg Ala Ala Thr	Met	Met Asp Ser
2630		2635		2640	
Pro Arg	Ala Leu Glu Ser	Asp	Thr Ala Leu Ala	Leu	Asn Arg Tyr
2645		2650		2655	
Leu Cys	Asn Ser Val Leu	Pro	Leu Leu Thr Asn	His	Ser His Phe
2660		2665		2670	
Phe Ala	Asp Ala Glu His	His	Ser Ala Leu Leu	Asp	Ala Thr Leu
2675		2680		2685	

His Thr	Val Tyr Arg Met Asn	Arg Leu Lys Ser Leu	Thr Lys Asn
2690	2695	2700	
Gln Arg	Asp Ala Val Ser Asp	Phe Leu Val Ala Ile	Thr Arg Glu
2705	2710	2715	
Leu Pro	Pro Ala Met Met Ile	Lys Leu Leu Lys Lys	Val Ile Thr
2720	2725	2730	
Asp Ile	Leu Thr Met Asn Asp	Met Asn Val Leu Val	Pro Leu Arg
2735	2740	2745	
Leu Ile	Thr Leu His Tyr Glu	Arg Cys Gly Lys Tyr	Tyr Gly Ser
2750	2755	2760	
Gly Asn	His Tyr Gly Val Ala	Ser Glu Gln Glu Lys	Arg Leu Ser
2765	2770	2775	
Met Leu	Leu Phe Asp Ala Ile	Phe Asp Thr Leu Gly	Ser Arg Pro
2780	2785	2790	
Tyr Asp	Pro Glu Leu Phe Gly	Lys Ala Leu Pro Cys	Met Thr Ala
2795	2800	2805	
Ile Gly	Ser Ala Ile Ser Pro	Asp Tyr Thr Leu Thr	Ser Gly Leu
2810	2815	2820	
Glu Asp	Val Arg Asn Lys Arg	Arg Glu Glu Glu Gly	Ala Trp Ile
2825	2830	2835	
Pro Arg	Thr Val Asp Val Ser	Arg Cys Glu Ile Asn	Arg Asp Leu
2840	2845	2850	
Glu Lys	Met Thr Glu Leu Phe	Ala Glu His Phe His	Asp Ser Trp
2855	2860	2865	
Ala Ser	Arg Lys Leu Glu Lys	Gly Trp Val His Gly	Asp Leu Tyr
2870	2875	2880	
Ser Arg	Ala Asn Phe Thr His	Pro Arg Leu Lys Pro	Phe Ala Leu
2885	2890	2895	
Leu Lys	Asp Phe Glu Lys Ser	Phe Tyr Lys Glu Arg	Cys Ser Glu
2900	2905	2910	
Cys Leu	Lys Ala Leu Met Ala	Trp Asn Tyr Ser Phe	Glu Met Met
2915	2920	2925	
Asp Arg	Asp Ala Asn Asp Arg	Ala Ser Ala Ala Arg	Thr Leu Ser
2930	2935	2940	
Gly Thr	Ser Ile Ser Asn Phe	Ala Pro Lys Pro Ile	Asp Leu Ser
2945	2950	2955	
Ser Met	Thr Leu Glu Lys Asp	Met Val Asn Ala Ala	Glu Lys Met
2960	2965	2970	
Ala Glu	His Ser His Leu Ile	Trp Ala Lys Lys Val	Met Asn Asp
2975	2980	2985	

Leu	Asn	Thr	Lys	Gly	Gly	Phe	Met	Pro	Ile	Pro	Leu	Val	Pro	Trp
2990						2995					3000			
Asp	Leu	Leu	Thr	Asp	Phe	Glu	Arg	Arg	Lys	Asp	Arg	Phe	Arg	Ala
3005						3010					3015			
Ser	Glu	Ile	Leu	Lys	Phe	Leu	Gln	Tyr	His	Gly	Tyr	His	Val	Asn
3020						3025					3030			
Cys	Pro	Lys	Asp	Glu	Gln	Ser	Gln	Asn	Asp	Arg	Leu	Lys	Ser	Glu
3035						3040					3045			
Gly	Glu	Arg	Thr	Ser	Val	Glu	Lys	Arg	Phe	Ala	Tyr	Asn	Leu	Leu
3050						3055					3060			
Glu	Lys	Leu	Ile	Thr	Tyr	Leu	Glu	Gln	Ala	Ser	Leu	Lys	Met	Lys
3065						3070					3075			
Ser	Val	Lys	Pro	Ser	Gln	Glu	Leu	Thr	Arg	Arg	Asn	Ser	Phe	Lys
3080						3085					3090			
Lys	Glu	Gly	Gln	Asp	Val	Lys	Phe	Phe	Glu	Lys	Val	Val	Leu	Pro
3095						3100					3105			
Leu	Met	His	Ala	Tyr	Phe	Asn	Ala	His	Lys	Asn	Tyr	Phe	Leu	Glu
3110						3115					3120			
Gly	Ser	Ser	Ile	Val	Gln	Thr	Gly	Thr	Ala	Ser	Asn	Lys	Glu	Lys
3125						3130					3135			
Glu	Met	Val	Ala	Asn	Leu	Phe	Cys	Arg	Leu	Ala	Ala	Leu	Leu	Arg
3140						3145					3150			
Ile	Lys	Asn	Arg	Ala	Phe	Gly	Ser	Val	Ala	Lys	Ile	Thr	Val	Lys
3155						3160					3165			
Cys	Leu	Gln	Gly	Leu	Thr	Gln	Ala	Leu	Asp	Leu	Arg	Thr	Leu	Val
3170						3175					3180			
Lys	Val	Asn	Ser	Asp	Ile	Val	Arg	Thr	Ser	Leu	Leu	Thr	Phe	Phe
3185						3190					3195			
Asn	Asn	Cys	Ala	Asp	Asp	Leu	Tyr	Ala	Ser	Val	Asn	Glu	Leu	Lys
3200						3205					3210			
Asp	Gly	Gly	Gln	Tyr	Ser	Leu	Ile	Arg	Gly	Gln	Ala	Leu	Lys	Ser
3215						3220					3225			
Trp	Asn	Ser	Phe	Glu	Phe	Ala	Asn	Gln	Met	Ile	Val	Pro	Val	Leu
3230						3235					3240			
Thr	Thr	Met	Phe	Ala	His	Leu	Ala	Arg	Asn	His	Phe	Gly	Thr	Asp
3245						3250					3255			
Leu	Leu	Leu	Asp	Asp	Ile	Gln	Ala	Ala	Cys	Tyr	Lys	Ile	Leu	Asp
3260						3265					3270			
Ser	Leu	Tyr	Met	Val	Thr	Gly	Leu	Ser	Ser	Ser	Ile	Ser	His	Arg
3275						3280					3285			

Lys	Ser	Ile	Ser	Gly	Glu	Ser	Glu	Lys	His	Arg	Pro	Gly	Leu	Gly
3290						3295					3300			
Gln	Cys	Leu	Ala	Ala	Phe	Ala	Ser	Cys	Phe	Pro	Val	Ala	Phe	Leu
3305						3310					3315			
Glu	Pro	Glu	Phe	Asn	Lys	Ser	Asn	Lys	Phe	Ser	Val	Leu	Ala	Lys
3320						3325					3330			
Ser	Gln	Asp	Gln	Ser	Val	Gln	Val	Gln	Glu	Met	Leu	Gln	Asn	Leu
3335						3340					3345			
Ser	Thr	His	Ile	Pro	His	Leu	Glu	Lys	Leu	Leu	Thr	Asp	Leu	Glu
3350						3355					3360			
Thr	Val	Ala	Asn	Asn	Asn	Thr	Met	Tyr	Ser	Asp	Val	Pro	Asn	Val
3365						3370					3375			
Tyr	Asp	Val	Asp	Leu	Pro	Leu	Met	Cys	Ser	Tyr	Met	Ala	His	Trp
3380						3385					3390			
Phe	Ser	Val	Gly	Pro	Asp	Gly	Lys	Arg	Asp	Lys	Glu	Asp	Gln	Arg
3395						3400					3405			
Ala	Ser	Val	Val	Gln	Thr	Thr	Ser	Val	Ser	Cys	Asp	His	Ile	Asn
3410						3415					3420			
Arg	Ile	Phe	Asn	Ala	Leu	Leu	Lys	Met	Ile	Arg	Asn	His	Val	Gly
3425						3430					3435			
Ile	Glu	Asn	Ala	Pro	Trp	Leu	Cys	Arg	Val	Asn	Phe	Phe	Ala	Val
3440						3445					3450			
Gln	Ile	Ile	Gln	Asn	Val	Thr	Ser	Asp	Pro	Val	Arg	Glu	Phe	Val
3455						3460					3465			
Leu	Pro	Ile	Ala	Glu	Arg	Leu	Arg	Arg	Met	Ser	Glu	Lys	Ala	Tyr
3470						3475					3480			
Lys	Glu	Glu	Glu	His	Met	Arg	Thr	His	Pro	Asp	Asp	Ala	Asp	Glu
3485						3490					3495			
Gly	Thr	Val	Ala	Glu	Asp	Asn	Ala	Arg	Leu	Val	Arg	Asp	Thr	Tyr
3500						3505					3510			
Ala	Phe	Phe	Pro	Ile	Leu	Met	Lys	Tyr	Thr	Asp	Leu	His	Arg	Ala
3515						3520					3525			
Gln	Trp	Leu	Lys	Thr	Pro	Thr	Trp	Glu	Thr	Asp	Gly	Val	Tyr	Glu
3530						3535					3540			
Asn	Val	Ala	Val	Ile	Phe	Arg	Ile	Trp	Ser	Gln	Ser	Gln	His	Phe
3545						3550					3555			
Lys	Arg	Glu	Glu	Leu	Asn	Tyr	Val	Ala	Gln	Phe	Glu	Glu	Asp	Ala
3560						3565					3570			
Ala	Ala	Thr	Gly	Gly	Gly	Asp	Met	Lys	Thr	Gly	Lys	Ala	Ala	Ile
3575						3580					3585			

Ala	Glu	Arg	Lys	Lys	Lys	Arg	Arg	Glu	Gly	Gln	Ile	Lys	Lys	Asp
3590						3595					3600			
Lys	His	Ala	Ala	Ser	Ile	Val	Ile	Ala	Cys	Leu	Lys	Arg	Leu	Leu
3605						3610					3615			
Pro	Val	Gly	Leu	Asn	Val	Phe	Gly	Gly	Arg	Glu	Leu	Asp	Ile	Val
3620						3625					3630			
Gln	Gln	Ser	Lys	Glu	Lys	Phe	Ile	Gln	Lys	Glu	Thr	Glu	Glu	Lys
3635						3640					3645			
Ile	Arg	Glu	Phe	Ile	Lys	Gly	Leu	Leu	Glu	Ile	Pro	Val	Lys	Thr
3650						3655					3660			
Asp	Pro	Thr	Asp	Lys	Asn	Ala	Trp	Gln	Leu	Ser	Leu	Tyr	Arg	Lys
3665						3670					3675			
Ile	Gly	Lys	Ser	Gln	Met	Arg	Gly	Lys	Asp	Glu	Met	Ser	Gln	Asp
3680						3685					3690			
Ala	Val	Ile	Glu	Lys	Ile	Phe	Asn	Met	Gly	Gln	Val	Ser	Ala	Ile
3695						3700					3705			
Leu	His	Thr	Met	Thr	Ser	Arg	Met	Glu	Lys	Glu	Asp	Ile	Trp	Lys
3710						3715					3720			
Lys	Val	Leu	Thr	Leu	Gln	Arg	Lys	Arg	Met	Ala	Ile	Ser	Leu	Ile
3725						3730					3735			
Thr	Ala	Ser	His	Leu	Tyr	Lys	Thr	Glu	Leu	His	Arg	Gly	Ile	Asn
3740						3745					3750			
Phe	Phe	Leu	Pro	Ala	Phe	Ser	Arg	Leu	Trp	Met	Glu	Glu	Glu	Asp
3755						3760					3765			
Ala	Gly	Gln	Asp	Gln	Leu	Ile	Ala	Asp	Ile	Cys	Ser	Gly	Val	Glu
3770						3775					3780			
Glu	Glu	Glu	Gly	Pro	Arg	Ile	Glu	Ile	Ile	Met	Glu	Glu	Gly	Val
3785						3790					3795			
Pro	Ile	Val	Ala	Ser	Ser	Glu	Asp	Thr	Lys	Glu	Lys	Glu	Thr	Asn
3800						3805					3810			
Pro	Asp	Pro	Leu	Lys	Gln	Leu	Ile	Arg	Cys	Phe	Gln	Arg	Ala	Ala
3815						3820					3825			
Thr	Ser	Glu	Glu	Thr	Ala	Ala	Ser	Ala	Ile	His	Glu	Asp	Ser	Leu
3830						3835					3840			
Tyr	Ile	Arg	Phe	Ala	Asp	Val	Met	Ala	Lys	Ser	Ile	His	Ile	Glu
3845						3850					3855			
Glu	Glu	Asp	Gly	Glu	Asp	Gly	Glu	Glu	Gly	Glu	Ile	Asp	Gln	Ala
3860						3865					3870			
Ala	Lys	Glu	Glu	Gln	Ser	Gln	Ala	Leu	Arg	Gly	Glu	Gln	Ala	Val
3875						3880					3885			

Leu	Ala	Ser	Arg	Gly	Ala	Ala	Ile	Met	Cys	Leu	Met	Tyr	Leu	Ser
3890						3895					3900			
Ala	Ser	Gly	Gly	Glu	Pro	Asn	Glu	Met	Val	Ala	Gln	Thr	Leu	Gln
3905						3910					3915			
Leu	Gly	Ile	His	Leu	Leu	Ser	Gly	Gly	Asn	Val	Glu	Ile	Gln	Lys
3920						3925					3930			
Met	Leu	Ile	Glu	Tyr	Leu	Gln	Leu	Lys	Lys	Asp	Val	Arg	Phe	Phe
3935						3940					3945			
Thr	Ser	Met	Ala	Gly	Leu	Met	Asn	Lys	Cys	Ser	Val	Leu	Asn	Leu
3950						3955					3960			
Glu	Met	Phe	Glu	Arg	Gln	Ile	Lys	Ala	Glu	Gly	Leu	Gly	Met	Gly
3965						3970					3975			
Ala	Glu	Leu	Ala	Ser	Gly	Asp	Asn	Gln	Asn	Leu	Asn	Asp	Ala	Asp
3980						3985					3990			
Phe	Thr	Cys	Ser	Leu	Phe	Arg	Phe	Leu	Gln	Leu	Thr	Cys	Glu	Gly
3995						4000					4005			
His	Asn	Leu	Glu	Phe	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Pro	Gly	His
4010						4015					4020			
Thr	Thr	Ser	Val	Asn	Leu	Ile	Asn	Cys	Thr	Val	Asp	Tyr	Leu	Leu
4025						4030					4035			
Arg	Leu	Gln	Glu	Ser	Val	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser	Ser
4040						4045					4050			
Lys	Glu	Val	Ile	Asp	Glu	Gly	Gly	Lys	Glu	Tyr	Phe	Leu	Arg	Ala
4055						4060					4065			
Ile	Gln	Val	Cys	Ser	Gln	Val	Phe	Asn	Thr	Leu	Thr	Glu	Ser	Ile
4070						4075					4080			
Gln	Gly	Pro	Cys	Val	Gly	Asn	Gln	Met	Thr	Leu	Ala	Asn	Ser	Arg
4085						4090					4095			
Leu	Trp	Asp	Ala	Ile	Asn	Gly	Phe	Phe	Phe	Leu	Phe	Ala	His	Met
4100						4105					4110			
Met	Glu	Lys	Leu	Tyr	Lys	Asn	Ser	Thr	Gln	Leu	Glu	Leu	Leu	Arg
4115						4120					4125			
Glu	Phe	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Val	Leu	Met	Leu	Ser
4130						4135					4140			
Met	Leu	Glu	Gly	Asn	Val	Leu	Asn	Gly	Ser	Ile	Gly	Lys	Gln	Met
4145						4150					4155			
Val	Asp	Ala	Leu	Val	Glu	Ser	Gln	Pro	Ser	Val	Glu	Lys	Ile	Leu
4160						4165					4170			
Lys	Phe	Ser	Asp	Met	Phe	Leu	Lys	Leu	Lys	Asp	Leu	Thr	Thr	Ser
4175						4180					4185			

Gln	Ala	Phe	Gln	Asp	Phe	Asp	Thr	Asn	Gln	Asp	Gly	Trp	Ile	Ser
4190						4195					4200			
Pro	Lys	Glu	Phe	Gln	Arg	Ala	Met	Glu	Ser	Gln	Lys	Met	Tyr	Thr
4205						4210					4215			
Val	Glu	Asp	Ile	Thr	Tyr	Leu	Met	Met	Cys	Thr	Asp	Val	Asn	Asn
4220						4225					4230			
Asp	Gly	Lys	Val	Asp	Tyr	Met	Glu	Phe	Thr	Glu	Arg	Phe	His	Asn
4235						4240					4245			
Pro	Ala	Arg	Asp	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu	Val	Asn
4250						4255					4260			
Leu	Lys	Glu	His	Ile	Thr	Asn	Asp	Pro	Arg	Leu	Glu	Lys	Ile	Ile
4265						4270					4275			
Glu	Lys	Ala	Gln	Thr	Leu	Leu	Glu	Tyr	Phe	Asp	Pro	Phe	Leu	Gly
4280						4285					4290			
Arg	Ile	Glu	Ile	Met	Gly	Ser	Ser	Lys	Arg	Val	Glu	Lys	Ile	Tyr
4295						4300					4305			
Phe	Glu	Ile	Gln	Glu	Ser	Trp	Leu	Glu	Gln	Trp	Gly	Lys	Gln	Gln
4310						4315					4320			
Ile	Arg	Asp	Ser	Lys	Asn	Ser	Phe	Leu	Phe	Asn	Val	Leu	Gln	Asp
4325						4330					4335			
Asp	Gly	Gly	Asp	Gln	Gly	Lys	Leu	Glu	Ala	Phe	Ile	Asn	Phe	Cys
4340						4345					4350			
Glu	Asp	Thr	Ile	Phe	Glu	Met	Gln	His	Ala	Ala	Ala	Ile	Ser	Ser
4355						4360					4365			
Gly	Asp	Ser	Asp	Thr	Lys	Met	Glu	Arg	Ala	Ile	Lys	Gln	Arg	Asp
4370						4375					4380			
Tyr	Phe	Leu	Gln	Gln	Thr	Ser	Ala	Asp	His	Ile	Ser	Glu	Thr	Phe
4385						4390					4395			
Lys	Ser	Gly	Tyr	Asn	Tyr	Gly	Ile	Ser	Ala	Ala	Ser	Ala	Leu	Ser
4400						4405					4410			
Pro	Gln	Asn	Ile	Ser	Thr	Thr	Met	Arg	Asn	Val	Ser	Ser	Ser	Val
4415						4420					4425			
Arg	Gln	Met	Ser	Trp	Thr	Gln	Leu	Leu	Tyr	Ala	Val	Ile	Ile	Leu
4430						4435					4440			
Phe	Ile	Arg	Ala	Gly	Leu	Ala	Ile	Gly	Trp	Ala	Gly	Tyr	Leu	Leu
4445						4450					4455			
Leu	Met	Thr	Ile	Phe	Arg	Phe	Gly	Tyr	Phe	Leu	Thr	Thr	Ser	Ser
4460						4465					4470			
Glu	Glu	Glu	Glu	Ala	Ala	Arg	Gln	Glu	Lys	Glu	Gln	Ala	Lys	Met
4475						4480					4485			

Asn Asn	Glu His Pro Ser Phe	Asn Pro Pro Ile Ile	Gln Glu Phe
4490	4495	4500	
His His	Ser His Val Gly Val	Thr Ala Phe Gly Val	Gly Met Asn
4505	4510	4515	
Ala Asp	His Leu Asn Val Asn	Ser Leu Pro Asp Phe	Val Pro Pro
4520	4525	4530	
Glu Arg	Pro Glu Thr Pro Glu	Thr Val Leu Glu Glu	Glu Lys Pro
4535	4540	4545	
Leu Asn	Gln Glu Thr Ser Pro	Pro Thr Ser Pro Thr	Ser Pro Ala
4550	4555	4560	
Ser Lys	Ala Pro Ser Ile Tyr	Glu Ser Ile Gly Ala	Pro Gln Met
4565	4570	4575	
Val Gln	Leu Gln Ser Glu Ala	Asp Phe Gln Gln Gly	Gln Tyr Glu
4580	4585	4590	
Pro Lys	Ile Ala Glu Ser Asn	Ser Thr Lys Ser Arg	Gly Ser Ile
4595	4600	4605	
Leu Asn	Met Leu Ala Arg Asn	Phe Lys Thr Ile Glu	Lys Ile Thr
4610	4615	4620	
Leu Tyr	Leu Ala Phe Phe Ile	Asn Val Ile Leu Leu	Phe His Arg
4625	4630	4635	
Val Asp	Ile Ser His Ala Glu	Asn Ala Glu Ala Ala	Ser Glu Gly
4640	4645	4650	
Asp Asp	Asp Glu Asp Ala Leu	Glu Ser Ile Phe Ile	Thr Gly Met
4655	4660	4665	
Gln Phe	Pro Tyr Val Glu Tyr	Glu Ile Thr Gly Trp	Met Leu Ala
4670	4675	4680	
Gln Ile	Leu Tyr Trp Ile Ser	Val Leu His Leu Ser	Thr Ser Phe
4685	4690	4695	
Ala Leu	Leu Val Ser Phe Tyr	Gln Leu Lys Ile Pro	Leu Ile Thr
4700	4705	4710	
Phe Lys	Arg Glu Lys Glu Ile	Ala Arg Lys Leu Met	Phe Asp Gly
4715	4720	4725	
Cys Trp	Ile Thr Glu Glu Asp	Ser Glu Glu Leu Gly	Ile Val Asp
4730	4735	4740	
Thr Phe	Met Trp Tyr Leu Asp	Arg Ile Val Val Ser	Ala Lys Ser
4745	4750	4755	
Phe Pro	Met Met Tyr Trp Asp	Lys Phe Val Arg Arg	Lys Thr Arg
4760	4765	4770	
Ser Lys	Phe Lys Asp Gln Val	Asp Glu Glu Thr Leu	Thr Ser Ile
4775	4780	4785	

Leu Gly	Glu Glu Lys Met Ser	Thr Asp Ser Ser Tyr	Asp Tyr Arg
4790	4795	4800	
Tyr Ser	Cys Trp Leu Trp Ile	Gly Val Ile Leu Thr	Asn Gly Gln
4805	4810	4815	
Phe Leu	Tyr Arg Val Gly Tyr	Leu Leu Cys Ser Ala	Cys Gly Val
4820	4825	4830	
Phe Leu	Ser Pro Phe Phe Tyr	Ala Phe His Leu Ile	Asp Val Val
4835	4840	4845	
Leu Ser	Phe Pro Met Leu Lys	Ala Ile Leu Gln Ser	Val Thr His
4850	4855	4860	
Asn Leu	Gln Gln Leu Ile Leu	Thr Ile Met Met Thr	Leu Val Val
4865	4870	4875	
Val Tyr	Leu Tyr Thr Val Ile	Ala Phe Asn Phe Phe	Arg Lys Phe
4880	4885	4890	
Tyr Val	Gln Glu Gly Glu Glu	Gly Glu Glu Pro Asp	Arg Lys Cys
4895	4900	4905	
His Asn	Met Leu Thr Cys Phe	Ile Tyr His Phe Tyr	Ala Gly Val
4910	4915	4920	
Arg Ala	Gly Gly Gly Ile Gly	Asp Glu Leu Glu Ser	Pro Tyr Gly
4925	4930	4935	
Asp Asp	Leu Glu Tyr Pro Arg	Met Phe Tyr Asp Ile	Ser Phe Phe
4940	4945	4950	
Phe Phe	Val Ile Ile Ile Leu	Leu Ala Ile Met Gln	Gly Leu Ile
4955	4960	4965	
Ile Asp	Ala Phe Gly Glu Leu	Arg Asp Gln Gln Glu	Ser Ala Thr
4970	4975	4980	
Glu Lys	Leu Glu Ser Ser Cys	Phe Ile Cys Asp Ile	Gly Lys Glu
4985	4990	4995	
Thr Phe	Asp Arg Met Pro Arg	Gly Phe Glu Ile His	Thr Thr Lys
5000	5005	5010	
Glu His	Asn Phe Ala Asn Tyr	Leu Phe Phe Leu Gln	His Leu Val
5015	5020	5025	
Asn Lys	Asp Glu Thr Glu Tyr	Thr Gly Gln Glu Thr	Tyr Val Arg
5030	5035	5040	
Glu Lys	Tyr Asp Asn Arg Asp	Trp Asp Phe Phe Pro	Val Gly Glu
5045	5050	5055	
Cys Phe	Val Lys Gln Tyr Glu	Asp Gln Leu Leu Gln	Ser
5060	5065	5070	

<211> 5317
 <212> PRT
 <213> Hemicentrotus pulcherrimus

<400> 59

Met	Ala	Ser	Gln	Asp	Ala	Glu	Asp	Glu	Val	Ser	Phe	Leu	Arg	Thr	Gly	1	5	10	15
Asp	Gln	Leu	Asn	Leu	Val	Cys	Ser	Ser	Gln	Ser	Leu	Gly	His	Val	Leu	20	25	30	
Leu	Gly	Ala	Glu	Gly	Phe	Gly	Asn	Arg	Asn	Cys	Val	Leu	Glu	Glu	Ala	35	40	45	
Ser	Asn	Gln	Asn	Val	Pro	Pro	Asp	Leu	Ser	Ile	Cys	Val	Phe	Val	Leu	50	55	60	
Asn	Gln	Ala	Leu	Ser	Val	Arg	Ala	Leu	Gln	Glu	Met	Val	Ile	Thr	Asp	65	70	75	80
Gln	Ile	Asp	Gln	Gly	Gly	Gln	Ala	Gly	His	Arg	Thr	Leu	Leu	Tyr	Gly	85	90	95	
His	Ala	Met	Leu	Leu	Gln	His	Ser	Leu	Ser	Ser	Met	His	Leu	Ala	Cys	100	105	110	
Leu	Pro	Thr	Ser	Ser	Ser	Lys	Asp	Lys	Leu	Ala	Phe	Asp	Val	Gly	Leu	115	120	125	
Gln	Glu	Ser	Thr	Gln	Gly	Glu	Ala	Cys	Trp	Trp	Thr	Ile	His	Pro	Val	130	135	140	
Ser	Lys	Gln	Arg	Ser	Glu	Gly	Glu	Lys	Val	Arg	Val	Gly	Asp	Asp	Leu	145	150	155	160
Ile	Leu	Val	Asn	Val	Ala	Thr	Glu	Arg	Tyr	Leu	His	Leu	Ser	Val	Glu	165	170	175	
Arg	Asp	Asp	Gln	Pro	Met	Ile	Val	Val	Ala	Ser	Phe	Gln	Gln	Thr	Leu	180	185	190	
Trp	Thr	Val	Ala	Pro	Val	Ser	Ser	Gly	Ile	Val	Lys	Ile	Lys	Ala	Met	195	200	205	
Ala	Lys	Lys	Tyr	Gly	Asp	Thr	Glu	Lys	Val	Leu	Gly	Phe	Leu	Asn	Gly	210	215	220	
Leu	Asp	Thr	Leu	Arg	Phe	Ser	Arg	Gly	His	Met	Asp	Glu	Tyr	Leu	Thr	225	230	235	240
Val	Pro	Pro	Val	Gly	Cys	Lys	Asp	Asp	Asp	Asn	Ile	Ser	Glu	Val	Ser	245	250	255	
Tyr	Asp	Thr	Gly	Ala	Val	Ala	Gln	Tyr	Ala	Arg	Ser	Leu	Trp	Arg	Ala	260	265	270	
Glu	Leu	Ile	Leu	Lys	Lys	Trp	Asn	Gly	Ser	Tyr	Val	Ser	Trp	Gly	Pro	275	280	285	
Pro	Cys	Arg	Ile	Arg	His	Leu	Thr	Ser	Gly	Lys	Tyr	Leu	Ala	Val	Leu				

290	295	300
Glu Asn Gly Thr Val Cys Ile Val Pro Arg Lys Ser Cys Asn Leu Asp 305 310 315 320		
Asp Thr Ile Phe Cys Phe Gln Gln Ser Arg Glu Asp Leu Ala Asn Tyr 325 330 335		
Asp Ser Lys Gln Asp His Gly Met Gly Ser Ala Asp Ile Lys Tyr Gly 340 345 350		
Asp Ser Thr Val Leu Ile Gln His Met Lys Thr Gly His Trp Leu Ser 355 360 365		
Tyr Leu Val Val Glu Ser Val Val Gly Gly Arg Ala Ala Glu Arg Lys 370 375 380		
Val Val Met Leu Pro Glu Gly His Met Asp Asp Gly Phe Ser Val Val 385 390 395 400		
Arg Ala Arg Ala Glu Glu Ser Arg Ser Ala Gly Ile Ile Arg Lys Ser 405 410 415		
Thr Leu Leu Phe Asn Gln Phe Phe Asp Ala Leu Asp Ser Leu Arg Gly 420 425 430		
Glu Lys Glu Asp Asp Gln Leu Ala Trp Asn Ser Phe Asn Leu Ser Ser 435 440 445		
Val Val Asp Ile Leu Glu Asp Leu Ile Glu Tyr Phe Gly Glu Pro Glu 450 455 460		
Glu Asp Glu Asp His Glu Glu Lys Gln Lys Lys Leu Lys Ala Leu Arg 465 470 475 480		
Asn Arg Gln Asp Leu Phe His Glu Glu Gly Met Val Lys Leu Val Leu 485 490 495		
Glu Thr Ile Asp Lys Leu Ser Ile Phe Lys Ser Gly Arg Asp Phe Ala 500 505 510		
Ala Ile Val Gly Glu Asp Ala Gly Asp Leu Trp Gln Asp Ile Val Thr 515 520 525		
Tyr Leu Tyr Lys Leu Leu Ala Ala Met Ile Arg His Asn His Asn Asn 530 535 540		
Cys Ala Leu Phe Ala Gln Ser Val Arg Leu Asp Trp Leu Ile Asn Arg 545 550 555 560		
Leu Glu Ser Gln Gln Ala Ser Lys Gly Val Leu Glu Val Leu His Cys 565 570 575		
Val Leu Leu Gly Ser Pro Glu Ala Leu Asn Ile Ile Lys Glu Asn His 580 585 590		
Ile Lys Ser Met Ile Ser Gln Leu Glu Lys His Gly Arg Asp Pro Lys 595 600 605		
Val Leu Asp Val Leu Cys Ser Leu Cys Val Gly Asn Gly Val Ala Val		

610	615	620
Arg Ser Asn Gln Asn Leu Ile Cys Asp Asn Leu Leu Pro Ser Arg Asp		
625	630	635 640
Leu Leu Leu Gln Thr Ala Val Val Asp Glu Val Val Cys Met Arg Pro		
	645	650 655
Asn Val Ser Ile Ser Val Asp Lys Asn Ser Thr Val Tyr Lys Lys Trp		
	660	665 670
Tyr Phe Glu Val Ala Ile Asp Lys Gln Glu Ala Gly Thr Ser Arg Pro		
	675	680 685
Val His Phe Arg Val Gly Trp Ala Thr Thr Gln Gly Phe Arg Thr Tyr		
	690	695 700
Leu Arg Gly Gly Glu Gly Trp Gly Asn Ser Gly Val Val Asp Asp Leu		
705	710	715 720
Tyr Ser Phe Gly Phe Asp Gly Leu Asn Leu Trp Thr Gly Gly Val Ser		
	725	730 735
Lys Ala Ala Pro Trp Ser Gly Asn Arg Leu Leu Ser Lys Gly Asp Ile		
	740	745 750
Val Gly Val Cys Phe Asp Leu Ser Val Pro Arg Ile Leu Tyr His Val		
	755	760 765
Asn Gly Ser Pro Ile Lys Ala Ser Phe Glu Gly Ile Asn Leu Glu Gly		
	770	775 780
Met Phe Phe Pro Val Leu Ser Phe Ser Ala Arg Val Cys Ala Arg Phe		
785	790	795 800
Ile Leu Gly Gly Lys His Gly Arg Phe Lys Tyr Ser Pro Pro Lys Gly		
	805	810 815
Phe Ala Ala Val Cys Glu Ser Val Leu Pro Lys Glu Arg Leu Lys Ile		
	820	825 830
Glu Pro Cys Phe Ala Leu Gly His Val Thr Glu Gly Ile Ile Gln Gly		
	835	840 845
Pro Thr Ala Ser Gln Asp His Ser Ala Phe Ile Pro Ala Pro Val Asp		
	850	855 860
Thr Ala Asn Val Asn Leu Pro Gly Tyr Ile Glu Met Leu Arg Asp Lys		
865	870	875 880
Leu Ala Glu Asn Ile His Glu Leu Trp Cys Met Asn Lys Ile Glu Ala		
	885	890 895
Gly Trp Thr Trp Gly Pro Val Arg Asp Asp Ser Lys Lys Val His Asp		
	900	905 910
Ser Leu Met Phe Phe Ser Ser Leu Ser Glu Gln Glu Lys Asn Phe Asp		
	915	920 925
Ile Thr Met Ala Tyr Glu Thr Leu Arg Thr Leu Met Ala Leu Gly Tyr		

1235						1240				1245				
Met	Pro	Leu	Trp	Tyr	Ser	Lys	Ser	Gln	Pro	Met	Phe	Gln	Ser	Ile
1250						1255				1260				
Glu	Asp	Glu	His	Asp	Arg	Leu	Gly	Ile	Thr	Arg	Ile	Pro	Ala	Gly
1265						1270				1275				
Ile	Glu	Gly	Pro	Pro	Cys	Leu	Lys	Val	Ser	His	Lys	Lys	Cys	Gly
1280						1285				1290				
Thr	Val	Glu	Asn	Leu	Pro	Thr	Glu	Tyr	Leu	Arg	Leu	Ser	Met	Pro
1295						1300				1305				
Val	Val	Cys	Lys	Asp	Phe	Pro	Thr	Ser	Gly	Glu	Met	Val	Leu	Ser
1310						1315				1320				
Ile	Pro	Val	Pro	Val	Leu	Ser	Pro	Gly	Asn	Lys	Arg	Gly	Gln	Trp
1325						1330				1335				
Ile	Gln	Gln	Gly	Ala	Thr	Ser	Leu	Asp	Leu	Ser	Glu	Thr	Asp	Ser
1340						1345				1350				
Asn	Asp	Gly	Thr	Asn	Arg	Arg	Thr	Arg	Ser	Gly	Leu	Asp	Lys	Met
1355						1360				1365				
Glu	His	Lys	Ala	Ile	Asp	Thr	Asp	Ala	Ile	Asp	Gly	Asp	Ala	Arg
1370						1375				1380				
Val	Asn	Gly	Tyr	Asn	Gly	Asp	Thr	Lys	Glu	Leu	Thr	Lys	Lys	Glu
1385						1390				1395				
Lys	Lys	Lys	Leu	Ala	Ser	Leu	Pro	Leu	Gly	Arg	Lys	Ile	Pro	Met
1400						1405				1410				
Ser	Arg	Ala	Ala	Ser	Ser	Glu	Thr	Ser	Thr	Val	Gln	Ser	Pro	Asp
1415						1420				1425				
Ser	Ser	Phe	Glu	Arg	Ser	Gly	Pro	Ser	Pro	Ala	Lys	Ser	Lys	Arg
1430						1435				1440				
Ser	Lys	Phe	Thr	Lys	Ser	Ser	Ser	Met	Asp	Ser	Gly	Ala	Lys	His
1445						1450				1455				
Pro	Glu	Asp	Thr	Leu	Ala	Lys	Pro	Thr	Gly	Tyr	Glu	Val	Asp	Gly
1460						1465				1470				
Gln	Arg	Ser	Pro	Gly	Ala	Ala	Arg	Arg	Gly	Lys	Lys	His	Asp	Arg
1475						1480				1485				
Leu	Arg	Thr	Pro	Glu	Ala	Ser	Pro	Pro	Gly	Thr	Leu	Thr	Arg	Glu
1490						1495				1500				
Tyr	Ile	Pro	Leu	Lys	Ser	Asp	Asn	Glu	Gly	Ser	Val	Gly	Ser	Asp
1505						1510				1515				
Asn	His	Gly	Arg	Pro	Arg	Leu	Ala	Lys	Leu	Val	Ser	Met	Gly	Ser
1520						1525				1530				
Ser	Phe	Asp	Val	Phe	Ser	Lys	Ser	Ile	Asp	Ile	Met	Ser	Asp	Ile

1535					1540					1545				
Ser	Glu	Ala	Asp	Ser	Ile	Asp	Leu	Ser	Met	Met	Thr	Lys	Phe	Tyr
1550						1555					1560			
Tyr	Ser	Val	Arg	Ile	Phe	Pro	Gly	Gln	Asp	Pro	Thr	Asp	Ile	His
1565						1570					1575			
Val	Gly	Trp	Val	Thr	Pro	Gly	Tyr	His	His	Tyr	Ser	Pro	His	Phe
1580						1585					1590			
Asp	Pro	Ser	Lys	Thr	Ser	Glu	Val	Thr	Val	Asn	Met	Leu	Gly	Glu
1595						1600					1605			
Asn	Gly	Gly	Val	Gln	Glu	Ser	Ser	Lys	Arg	Arg	Asp	Cys	Phe	Thr
1610						1615					1620			
Val	Cys	Val	Gly	Asp	His	Met	Asp	Leu	Leu	Ile	Thr	Pro	Glu	Gly
1625						1630					1635			
Arg	Arg	Ile	Ser	Ser	Gly	Leu	Val	Val	Gly	Cys	Val	Val	Asp	Ala
1640						1645					1650			
Cys	Asn	Gly	Glu	Leu	Tyr	Phe	Thr	Ile	Asn	Gly	Arg	Asp	Ile	Ser
1655						1660					1665			
Thr	Lys	Tyr	Gln	Val	Glu	Pro	Lys	Thr	Lys	Leu	Phe	Pro	Ala	Val
1670						1675					1680			
Phe	Val	Lys	Pro	Thr	Ser	Lys	Glu	Met	Leu	Gln	Phe	Glu	Leu	Gly
1685						1690					1695			
Arg	Ser	Lys	Ile	Leu	Glu	Arg	Arg	Ser	Ser	Ser	Val	Gln	Ser	Glu
1700						1705					1710			
Ile	Ala	Gln	Met	Ser	Val	Asn	Gln	Asn	Cys	Leu	Pro	Leu	Ser	Ala
1715						1720					1725			
Ala	Trp	Phe	Arg	Gly	Asp	Thr	His	Asn	Pro	Thr	Pro	Gln	Cys	Pro
1730						1735					1740			
Ser	Arg	Val	Glu	Val	Gln	Val	Met	Tyr	Thr	Asn	Thr	Trp	Ala	Arg
1745						1750					1755			
Ala	Pro	Leu	Gln	Thr	Met	Asn	Ile	Glu	Thr	Lys	Lys	Met	Ser	Asp
1760						1765					1770			
Asn	Asn	Gly	Trp	Leu	Val	Ser	Cys	Pro	Glu	Pro	Val	Ser	Trp	Leu
1775						1780					1785			
Gly	Val	His	Ile	Pro	Glu	Glu	Asn	Arg	Cys	Met	Asp	Ile	Leu	Glu
1790						1795					1800			
Leu	Val	Glu	His	Glu	Asp	Leu	Leu	Lys	Phe	His	Ala	His	Thr	Leu
1805						1810					1815			
Arg	Leu	Tyr	Cys	Ser	Val	Cys	Ser	His	Gly	Asn	His	His	Val	Ala
1820						1825					1830			
His	Ala	Leu	Ile	Asn	His	Val	Asn	Glu	Asp	Gln	Leu	Met	Tyr	Cys

1835					1840					1845				
Leu	Gln	Cys	Pro	Tyr	Ile	Ser	Gly	Pro	Leu	Arg	Ile	Gly	Tyr	Tyr
1850						1855					1860			
Asn	Leu	Leu	His	Ala	Leu	His	Leu	Gln	Thr	His	Val	Ser	Ala	Arg
1865						1870					1875			
Leu	Lys	Thr	Gln	Asp	Glu	Phe	Ile	Ile	Pro	Leu	Met	Ala	Gly	Pro
1880						1885					1890			
Lys	Pro	Val	Asp	Glu	Glu	Leu	Asp	Ile	Ser	Ser	Ser	Met	Ser	Ile
1895						1900					1905			
Lys	Arg	Ala	Leu	Ser	Thr	Thr	Lys	Ser	Val	Ser	Ile	Arg	Pro	Gln
1910						1915					1920			
Leu	Asn	Ile	Gly	Pro	Ser	Ala	Asp	Ser	Ser	His	Gln	Ser	Phe	Ser
1925						1930					1935			
Gln	Ser	Met	Lys	Ala	Ser	Glu	Gln	Ala	Pro	Pro	Gly	Phe	Asn	His
1940						1945					1950			
Met	Val	Leu	Lys	Gln	His	Val	Ile	Ser	Ser	Leu	Gly	Glu	Ala	Val
1955						1960					1965			
Ala	His	Gly	Val	Ser	His	Cys	Arg	Asp	Pro	Ile	Gly	Gly	Asn	Tyr
1970						1975					1980			
Asn	Asn	Leu	Phe	Val	Pro	Leu	Leu	Glu	Leu	Cys	Asp	Ala	Leu	Leu
1985						1990					1995			
Val	Ile	Gly	Glu	Phe	Asp	Asp	Asp	Asp	Leu	Lys	Ser	Leu	Leu	Ile
2000						2005					2010			
Leu	Ile	Asp	Pro	Ala	Thr	Phe	Asp	Glu	Thr	Tyr	Lys	Lys	Gly	Val
2015						2020					2025			
Ser	Glu	Thr	Val	Gly	Met	Leu	Gln	Met	His	Leu	Asp	Glu	Pro	Val
2030						2035					2040			
Lys	Leu	Ala	Met	Cys	Phe	Leu	Leu	Gln	His	Leu	Cys	Asp	Ser	Gln
2045						2050					2055			
Leu	Arg	His	Arg	Val	Glu	Ser	Ile	Ile	Asn	Phe	Ser	Asp	Asp	Phe
2060						2065					2070			
Val	Glu	Glu	Cys	Gln	Ala	Asp	Gln	Leu	Arg	Arg	Phe	Leu	Glu	Val
2075						2080					2085			
Arg	Asn	Thr	Asp	Met	Pro	Pro	Val	Ile	Ala	Ala	Lys	Lys	Thr	Arg
2090						2095					2100			
Glu	Phe	Arg	Ser	Thr	Pro	Gln	Glu	Gln	Met	Arg	Met	Leu	Leu	His
2105						2110					2115			
Phe	Lys	Asp	Gly	Asp	Asp	Gly	Met	Cys	Pro	Cys	Arg	Glu	Asp	Leu
2120						2125					2130			
Arg	Ser	Val	Leu	Leu	Glu	Phe	His	Ser	Thr	Leu	Ala	Lys	His	Cys

2135					2140					2145				
Gly	Val	His	Glu	Thr	Gln	Glu	Glu	Lys	Ser	Thr	Asp	Ser	Arg	Gly
2150					2155					2160				
Val	Ile	Arg	Arg	Phe	Leu	Ser	Trp	Leu	Ser	Gly	Ser	Arg	Lys	Asp
2165					2170					2175				
Ala	Ser	Pro	Ala	Gly	Ala	Ile	Leu	Gln	Glu	Lys	Phe	Ser	Ser	Asp
2180					2185					2190				
Ser	Leu	Ser	His	Leu	Ile	Ser	Asn	Thr	Met	Ile	Lys	Trp	Ala	Glu
2195					2200					2205				
Glu	Lys	His	Ile	Glu	Asp	Pro	Thr	Leu	Val	Arg	Glu	Met	Phe	Asn
2210					2215					2220				
Leu	Leu	His	Arg	Gln	Tyr	Asp	Gly	Val	Gly	Glu	Leu	Cys	Ser	Ala
2225					2230					2235				
Leu	Gln	Lys	Ser	Tyr	Val	Val	Ser	Ser	Asn	Gln	Arg	Asp	Asp	Ile
2240					2245					2250				
Val	His	Leu	Leu	Thr	Ser	Leu	Gly	Gln	Ile	Arg	Ser	Leu	Leu	Thr
2255					2260					2265				
Val	Gln	Met	Gly	Ser	Val	Glu	Glu	Glu	Ala	Leu	Ile	Lys	His	Leu
2270					2275					2280				
Trp	Glu	Val	Thr	Asp	Asn	Lys	Val	Phe	Tyr	Gln	His	Pro	Asp	Leu
2285					2290					2295				
Met	Arg	Ala	Leu	Cys	Val	His	Glu	Thr	Val	Met	Asn	Val	Met	Val
2300					2305					2310				
Asn	Val	Leu	Glu	Lys	His	Gln	Thr	Ser	Ile	Gln	Leu	Thr	Ser	Asp
2315					2320					2325				
Glu	Glu	Ala	Glu	Ser	Ser	Ala	Gln	Gly	Gln	Gly	Val	Thr	Gly	Ala
2330					2335					2340				
Ser	Thr	Ala	Ala	Ala	Pro	Pro	Lys	Thr	Gln	Val	Cys	Val	Tyr	Arg
2345					2350					2355				
Phe	Leu	Ala	Arg	Arg	Ala	Arg	Met	Cys	His	Ser	Lys	Asp	Arg	Phe
2360					2365					2370				
Ala	Arg	Ala	Leu	Ile	Ala	Gly	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe
2375					2380					2385				
Cys	Arg	Thr	Ser	Arg	Gln	Asn	Gln	Arg	Ala	Leu	Phe	Asp	Thr	Leu
2390					2395					2400				
Leu	Tyr	Leu	Leu	Asp	His	Gly	Phe	Ile	Gly	Leu	Ser	Tyr	Pro	Ser
2405					2410					2415				
Leu	Arg	Gly	Ser	Cys	Pro	Leu	Asp	Val	Ala	Ala	Ala	Ser	Leu	Met
2420					2425					2430				
Asp	Asn	Asn	Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	Gln	His	Leu	Glu

2435	2440	2445
Lys Val Ile Thr Phe Leu Ser	Arg Cys Gly Val Gln	Asp Asn Ala
2450	2455	2460
Arg Leu Arg Ala Met Gly Asn	Pro Tyr Leu Asp Gly	Thr Pro Leu
2465	2470	2475
Asp Gly Glu Arg Tyr Leu Asp	Phe Met Arg His Ala	Val Trp Val
2480	2485	2490
Asn Gly Glu Thr Val Glu Glu	Asn Ala Asn Leu Ile	Val Arg Met
2495	2500	2505
Leu Ile Arg His Pro Glu Cys	Leu Gly Pro Ala Leu	Arg Gly Glu
2510	2515	2520
Gly Lys Gly Leu Leu Ala Ala	Met Glu Glu Ala Ile	Asp Leu Ser
2525	2530	2535
Glu Thr Ala Glu Glu Gly Tyr	Leu Ile Ser Ala Pro	Thr Met Ala
2540	2545	2550
Ile Ser Glu Glu Asp Gly Glu	Val Arg Pro Ile Asp	Ala Ser Gly
2555	2560	2565
Gln Asp Glu Glu Gly Asp Glu	Asp Glu Asp Asp Val	Asp Thr Gly
2570	2575	2580
Gly Ala Ile Leu Thr Phe Tyr	Ala Thr Leu Ile Asp	Leu Leu Gly
2585	2590	2595
Arg Cys Ala Pro Asp Glu Asn	Arg Leu Ser Gln Gly	Arg Thr Glu
2600	2605	2610
Pro Gln Arg Ile Arg Ala Ile	Leu Gln Ser Leu Val	Pro Leu Asp
2615	2620	2625
Asp Leu Val Gly Val Leu Asn	Leu Lys Phe Ile Leu	Pro Ser Pro
2630	2635	2640
Gln Lys Ile Tyr Glu Lys Lys	Asp Asp Gly Ala Gly	Lys Pro Leu
2645	2650	2655
Gly Ala Asp Leu Lys Gly Leu	Thr Pro Val His Lys	Glu Ala Met
2660	2665	2670
Leu Leu Phe Leu Glu Arg Val	Tyr Gly Val Gly Asn	Gln Glu Leu
2675	2680	2685
Phe Phe Glu Leu Leu Glu Val	Gly Phe Leu Pro Asp	Leu Arg Ala
2690	2695	2700
Ala Thr Thr Met Asp Thr Pro	Thr Thr His Asp His	Asp Met Ala
2705	2710	2715
Leu Ala Leu Asn Arg Tyr Ile	Cys Asn Ser Val Leu	Pro Leu Leu
2720	2725	2730
Thr Arg His Ser Glu Met Phe	Glu Ser Ala Asp Gln	Phe Ala Ser

2735	2740	2745
Leu Leu Asp Ser Thr Leu His Thr Val Tyr Arg Leu Ala Ser Cys		
2750	2755	2760
Arg Ser Leu Thr Arg Gly Gln Arg Asp Thr Val Ala Asp Phe Leu		
2765	2770	2775
Val Ala Leu Thr Arg Ser Leu Lys Pro Ser Met Met Gln Arg Leu		
2780	2785	2790
Leu Arg Lys Leu Ile Asn Asp Val Pro Val Leu Ala Glu Tyr Ser		
2795	2800	2805
Tyr Val Ala Leu Lys Ile Leu Gln Leu His Tyr Glu Arg Cys Val		
2810	2815	2820
Ser Tyr Tyr Gly Ser Asn Gly Gly Trp Gly Ser Tyr Gly Ala Ala		
2825	2830	2835
Asn Asp Glu Glu Lys Arg Leu Thr Met Met Leu Phe Thr Gly Leu		
2840	2845	2850
Phe Asp Ala Leu Ala Glu Lys Glu Tyr Asp Glu Glu Leu Phe Asp		
2855	2860	2865
Arg Ala Leu Pro Cys Leu Thr Ala Ile Gly Ser Ala Leu Pro Pro		
2870	2875	2880
Asp Tyr Ser Met Ser Tyr Asn Asp Glu Ser Tyr Val Arg Glu Ser		
2885	2890	2895
Cys Phe Asp Ala Asp Gly Ile Tyr Gln Pro Lys Pro Val Asp Ser		
2900	2905	2910
Asn Lys Val Leu Leu Asn Glu Ser Leu Leu Ser Phe Ser Asp Arg		
2915	2920	2925
Phe Ala Glu His Leu His Asp Ser Trp Ala Leu Ala Met Phe Asp		
2930	2935	2940
Asn Gly Trp Thr His Gly Glu Ala Glu Asn Ser Ala Met Lys Glu		
2945	2950	2955
Ser Cys Met Leu Arg Pro Tyr Lys Thr Leu Thr Thr Lys Glu Lys		
2960	2965	2970
Asp Ser Tyr Arg Glu Pro Val Arg Glu Cys Ile Lys Ala Leu Leu		
2975	2980	2985
Ala Trp Gly Trp Ser Val Glu Arg Ser Lys Ala Ser Glu Gln Gln		
2990	2995	3000
Ser Gln Ala His Arg Pro Arg Arg Leu Ser Lys Ala Ser Leu Gly		
3005	3010	3015
Ala Met Glu Ser Pro His Gly Tyr Asn Pro Arg Pro Ile Asp Val		
3020	3025	3030
Ser Asn Ile Thr Leu Thr Arg Glu Met Gln Thr Met Ala Glu Arg		

3035	3040	3045
Leu Ala Glu Asn Ala His Asp 3050	Val Trp Ala Lys Lys 3055	Thr Lys Leu 3060
Glu Met Glu Leu Arg Gly Ser 3065	Gly Cys His Ala Gln 3070	Leu Val Pro 3075
Phe Asp Ile Leu Thr Asp Ser 3080	Glu Lys Lys Lys Asp 3085	Arg Asp Met 3090
Ala Gln Ala Leu Leu Lys Phe 3095	Leu Gln Val Asn Gly 3100	Tyr Arg Leu 3105
Gln Arg His Ser Leu Ser Met 3110	Asp Ala Asp Gly Ile 3115	Ile Arg Gly 3120
His Ser Thr Ile Glu Lys Arg 3125	Phe Ala Phe Asn Leu 3130	Leu Asp Lys 3135
Leu Leu His Tyr Val Asp Lys 3140	Ser Gln Ala Asn Leu 3145	Lys Pro Gln 3150
Arg Arg Gln Gln Asp Ser Phe 3155	Arg Ser Ser Lys Lys 3160	Glu Ser Ser 3165
Gly Asp Arg Gly Tyr Lys Phe 3170	Phe Ala Lys Val Val 3175	Leu Pro Leu 3180
Ile Glu Lys Tyr Phe Gln Ala 3185	His Ser Ser Tyr Phe 3190	Val Ala Asp 3195
Pro Asn Ala Pro Gln Asn Gly 3200	Arg Ser Gly Gly Ala 3205	Ser Thr Arg 3210
Glu Lys Glu Leu Val Ser Ser 3215	Leu Phe Cys Lys Leu 3220	Ala Gln Leu 3225
Ile Arg Gln Lys Ile Asn Leu 3230	Phe Gly Arg Asp Leu 3235	Val Pro Phe 3240
Ile Arg Cys Ile Arg Val Val 3245	Ala Gln Ser Ile Asp 3250	Ala Ser Ser 3255
Val Val Lys His Ser Ala Asp 3260	Ala Ile Lys Asn Gly 3265	Leu Leu Val 3270
Phe Phe Arg His Ala Ser Asp 3275	Asp Leu Val Ala Thr 3280	Val Asp Ser 3285
Val Thr Ser Gly Gly Arg Phe 3290	Thr His Ile Lys Ser 3295	Asn Gln Val 3300
His Lys His Ser Leu Ala Val 3305	Asn Tyr Val Pro Gly 3310	Val Leu Val 3315
Pro Val Leu Ile Ser Leu Phe 3320	Gln His Leu Ala Arg 3325	His Asn Tyr 3330
Gly Ala Asp Leu Leu Leu Asp	Gln Ile Gln Val Tyr	Cys Tyr Arg

3335					3340					3345				
Ile	Leu	Ser	Cys	Leu	Tyr	Lys	Val	Gly	Ala	Asp	Gln	Ser	Ile	Tyr
3350						3355					3360			
Val	Lys	Lys	Leu	Arg	Pro	Ala	Val	Gly	Glu	Leu	Leu	Ala	Ala	Phe
3365						3370					3375			
Ser	Gly	Ala	Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro	His	Leu	Asn	Lys
3380						3385					3390			
Asn	Asn	Pro	Asn	Ser	Leu	Leu	Gly	Gln	Ile	Glu	Leu	Arg	Gly	Ala
3395						3400					3405			
Thr	Val	Glu	Gly	Lys	Glu	Glu	Leu	Ile	Lys	Leu	Ala	Ala	Gly	Ile
3410						3415					3420			
Pro	Thr	Leu	Pro	Ala	Val	Val	Thr	Glu	Ile	Asp	Lys	Met	Ala	Met
3425						3430					3435			
Ser	Gly	Ala	Lys	Tyr	Asp	Gln	Ala	Pro	His	Ile	Ile	Glu	Val	Ile
3440						3445					3450			
Leu	Pro	Met	Leu	Cys	Ser	Tyr	Leu	Asn	Tyr	Trp	Trp	Gln	Gln	Gly
3455						3460					3465			
Pro	Asp	Asn	Ile	Cys	Arg	Arg	Gln	Gly	Asn	Tyr	Trp	Thr	Met	Val
3470						3475					3480			
Asn	Ser	Gly	Asn	Leu	Asn	Asn	Thr	Leu	Gly	Asn	Val	Leu	Thr	Leu
3485						3490					3495			
Val	Lys	Asn	Asn	Leu	Gly	Ser	Glu	Asn	Ala	Pro	Trp	Met	Ser	Arg
3500						3505					3510			
Ile	Ala	Ala	Thr	Ala	Lys	Pro	Ile	Leu	Asn	Asp	Ala	Gln	Pro	Glu
3515						3520					3525			
Leu	Leu	Lys	Thr	His	Phe	Val	Pro	Val	Ile	Glu	Lys	Leu	Glu	Glu
3530						3535					3540			
Arg	Thr	Ser	Lys	Val	Phe	Lys	Ala	Glu	Glu	Asp	Leu	Lys	Lys	Glu
3545						3550					3555			
Tyr	Pro	Met	Gly	Gly	Gln	Glu	Met	Glu	Glu	Thr	Glu	Phe	Ala	Ile
3560						3565					3570			
Leu	Glu	Asp	Tyr	His	Leu	Ile	Ile	Arg	Asp	Leu	Tyr	Ala	Ser	Tyr
3575						3580					3585			
Pro	Leu	Leu	Ile	Lys	Phe	Val	Asp	Ser	Gln	Arg	Ser	Gln	Trp	Leu
3590						3595					3600			
Lys	Ser	Pro	Ser	Ile	Asp	Ala	Glu	Lys	Leu	Tyr	Tyr	Lys	Val	Ala
3605						3610					3615			
Ser	Ile	Phe	Asn	Ser	Trp	Ala	Arg	Ser	Ala	Asn	Phe	Arg	Arg	Glu
3620						3625					3630			
Glu	Gln	Asn	Tyr	Val	Ala	Gln	Thr	Glu	Val	Asp	Ser	Ser	Ala	Ala

3635		3640		3645
Leu Thr Ser Ala Met Ser	Lys Ser Gly Gly Gly	Asn Gly Asn Phe		
3650	3655	3660		
Ser Tyr Gly Gly Ser Leu	Pro Gly Glu Pro Pro	Lys Leu Gln Ser		
3665	3670	3675		
Thr Ala Pro Lys Arg Pro	Asp Gly Gln His Gly	Ser Pro Pro Ser		
3680	3685	3690		
Leu Ile Leu Ala Ala Leu	Lys Arg Leu Leu Pro	Ile Gly Met Asn		
3695	3700	3705		
Gln Tyr Gly Ala Arg Glu	Gln Glu Leu Val Gln	Gln Ala Lys Leu		
3710	3715	3720		
Met Phe Gly Gln Lys Glu	Thr Asp Lys Glu Val	Arg Asp Tyr Leu		
3725	3730	3735		
Leu Gln Gln Leu His Leu	His Glu Lys Glu Lys	Val Glu Glu Thr		
3740	3745	3750		
Ala Arg Leu Thr Ala Leu	Gly His Ala Gln Ser	Ser Ile Ser Pro		
3755	3760	3765		
Lys Pro Ser Val Ser Phe	Ser Ser Ser Pro Pro	Ser Ser Ser Ser		
3770	3775	3780		
Pro Ala Ser Ala Pro Ala	Leu Ala Thr Ser Ser	Ser Ser Ala Thr		
3785	3790	3795		
Ser Thr Thr Ser Thr Ser	Ser Ser Ser Ser Ser	Ser Ser Ser Ser		
3800	3805	3810		
Ser Ser Pro Ser Ser Pro	Pro Ser Ser Ser Val	Asp Pro Gln Asp		
3815	3820	3825		
Ser Thr Lys Pro Ser Arg	Ile Arg Thr Arg Arg	Gln Ser Ile Ala		
3830	3835	3840		
Ala Trp Gln Thr Ala Ala	Ser Arg Val Thr Gly	Ala His Ile Thr		
3845	3850	3855		
Gln Ser Asp Ser Lys Gly	Trp Gln Arg His Leu	Tyr Asn Asn Met		
3860	3865	3870		
Ala Ala Ser Lys Leu Val	Gln Val Val Glu Leu	Thr Lys Asp Lys		
3875	3880	3885		
Val Ile Glu Arg Ile Met	Asn Met Ala Gln Val	Leu Asn Arg Leu		
3890	3895	3900		
His Gln Met Glu His Pro	Ser Met Ser Lys Lys	Asn Ala Trp Arg		
3905	3910	3915		
Arg Leu Met Ser Ala Gln	Arg Lys Arg Ala Ile	Met Ala Cys Phe		
3920	3925	3930		
Arg Met Ile Pro Leu His	His Leu Pro Arg His	Arg Ala Ile Asn		

3935				3940				3945						
Phe	Phe	Leu	Lys	Ala	Tyr	Lys	Glu	Arg	Trp	Leu	Ser	Asn	Glu	Glu
3950						3955					3960			
Ser	Ala	Gln	His	Leu	Leu	Ile	Asp	Asp	Leu	Thr	Lys	Cys	Ser	Ser
3965						3970					3975			
Glu	Glu	Leu	Gln	Glu	Phe	Glu	Pro	Glu	Asn	Val	Lys	Asp	Pro	Leu
3980						3985					3990			
Tyr	Gln	Leu	Ile	Ser	Thr	Phe	Ser	Arg	Ala	Phe	Gly	Leu	Gln	Gln
3995						4000					4005			
Asp	Met	Leu	Glu	Glu	Asp	Pro	Leu	Tyr	Leu	Ser	Tyr	Ala	Ala	Ile
4010						4015					4020			
Met	Ser	Thr	Ser	Cys	Ser	Gly	Gly	Glu	Asp	Asp	Asp	Asp	Asp	Asp
4025						4030					4035			
Asp	Gly	Gly	Asp	Glu	Asn	Gly	Thr	Ser	Phe	Gln	Glu	Gln	Glu	Met
4040						4045					4050			
Glu	Lys	Gln	Lys	Leu	Leu	Ser	Glu	Gln	Ala	Arg	Leu	Ala	Glu	Arg
4055						4060					4065			
Gly	Cys	Ala	Glu	Met	Val	Leu	Leu	Leu	Ile	Ser	Ala	Ser	Lys	Gly
4070						4075					4080			
Glu	Pro	Ser	Asp	Met	Val	Phe	Cys	Ser	Leu	Lys	Leu	Gly	Ile	Ser
4085						4090					4095			
Leu	Leu	Arg	Gly	Gly	Asn	Glu	Met	Val	Gln	Arg	Lys	Met	Leu	Glu
4100						4105					4110			
His	Leu	Gln	Asp	Lys	Met	Asp	Val	Gly	Phe	Phe	Thr	Ser	Val	Ala
4115						4120					4125			
Glu	Leu	Met	Glu	Lys	Cys	Thr	Val	Leu	Asp	Leu	Glu	Ala	Phe	Glu
4130						4135					4140			
Arg	Tyr	Asn	Lys	Ala	Glu	Gly	Leu	Gly	Val	Thr	Ser	Gly	Glu	Asn
4145						4150					4155			
Ala	Gly	Cys	Asp	Gly	Leu	Arg	Ala	Gly	Glu	Lys	Ala	Met	His	Asp
4160						4165					4170			
Ala	Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Leu	Gln	Leu	Leu	Cys
4175						4180					4185			
Glu	Gly	His	Asn	Leu	Glu	Phe	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala
4190						4195					4200			
Gly	Asn	His	Thr	Thr	Val	Asn	Ile	Ile	Ile	Cys	Thr	Val	Asp	Tyr
4205						4210					4215			
Leu	Leu	Arg	Leu	Gln	Glu	Ser	Ile	Ser	Asp	Phe	Tyr	Trp	His	Tyr
4220						4225					4230			
Ser	Gly	Lys	Asp	Val	Val	Asp	Ala	Gln	Gly	Arg	Glu	Asn	Phe	Ser

4235	4240	4245
Arg Ala Phe Lys Val Val Lys	Gln Val Phe Ser Ser	Leu Thr Glu
4250	4255	4260
Tyr Ile Gln Gly Pro Cys Ser	Gly Asn Gln Leu Ala	Leu Ala His
4265	4270	4275
Ser Arg Leu Trp Asp Ala Val	Val Gly Phe Leu His	Ile Phe Ala
4280	4285	4290
Asn Leu Gln Lys Lys Leu Ser	Gln Asp Thr Ser Gln	Leu Glu Leu
4295	4300	4305
Leu Arg Asp Leu Leu Asn Leu	His Lys Glu Met Val	Val Met Leu
4310	4315	4320
Leu Ser Met Leu Glu Gly Asn	Val Met His Gly Thr	Thr Gly Lys
4325	4330	4335
Gln Met Val Asp Thr Leu Val	Glu Ser Ser Ser Asn	Leu Glu Met
4340	4345	4350
Ile Leu Lys Phe Phe Asp Met	Phe Leu Lys Leu Lys	Asp Leu Ser
4355	4360	4365
Ser Ser Asp Ala Phe Arg Glu	Phe Asp Ala Asn Gly	Asp Gly Trp
4370	4375	4380
Ile Ser His Lys Glu Phe Gln	Lys Ala Met Glu Ala	Gln Lys Met
4385	4390	4395
Tyr Thr Val Asp Glu Ile Asp	Tyr Leu Leu Lys Cys	Ala Asp Arg
4400	4405	4410
Asn Asn Asp Gly Arg Ile Asp	Phe Asn Glu Phe Thr	Glu Arg Phe
4415	4420	4425
His Gly Pro Ala Gln Asp Ile	Gly Phe Asn Leu Ala	Val Leu Leu
4430	4435	4440
Thr Asn Leu Asn Asp His Met	Pro Gly Glu Arg Arg	Leu Glu Arg
4445	4450	4455
Phe Leu Leu Gln Ala Glu Ser	Leu Leu Thr Tyr Phe	Glu Pro Tyr
4460	4465	4470
Leu Gly Arg Ile Glu Ile Met	Gly Ser Ser Arg Gly	Ile Glu Arg
4475	4480	4485
Val Tyr Phe Lys Ile Thr Glu	Ser His Lys Ala Gln	Trp Glu Lys
4490	4495	4500
Pro Gln Ile Lys Glu Ser Lys	Gln Gln Phe Leu His	Glu Val Val
4505	4510	4515
Asn Glu Gly Gly Glu Lys Glu	Lys Leu Glu Asp Phe	Val Asn Phe
4520	4525	4530
Cys Glu Asp Thr Ile Phe Glu	Met Gln His Ala Thr	Ser Ile Ser

4535				4540				4545						
Asp	Thr	Gly	Glu	Ser	Leu	Pro	Glu	Val	Phe	Met	Ser	Leu	Leu	Thr
4550						4555					4560			
Phe	Gly	Ala	Ser	Arg	Asp	Ser	Asn	Asn	Trp	Leu	Val	Trp	Leu	Val
4565						4570					4575			
Arg	Gly	Met	Arg	Pro	Ser	Asn	Ile	Cys	Arg	Leu	Met	Gly	Asp	Phe
4580						4585					4590			
Phe	Ser	Ser	Ser	Gln	Tyr	Asn	Ile	Lys	Gln	Ile	Arg	Ser	Leu	Ser
4595						4600					4605			
Leu	Phe	Arg	Leu	Phe	Phe	Gly	Val	Ile	Lys	Leu	Ile	Phe	Leu	Gly
4610						4615					4620			
Val	Phe	Lys	Leu	Phe	Lys	Phe	Ala	Phe	Val	Ile	Val	Gly	Lys	Leu
4625						4630					4635			
Ile	Gly	Leu	Leu	Val	Gly	Thr	Arg	Ile	Leu	Glu	Asp	Ala	Arg	Glu
4640						4645					4650			
Ile	Thr	Gly	Ser	Ile	Lys	His	Ser	Leu	His	Val	Pro	Arg	Val	Ala
4655						4660					4665			
Arg	Arg	Gln	Thr	Ser	Ser	Ile	Ile	Asn	Val	Pro	Gly	Tyr	Gly	Met
4670						4675					4680			
Pro	Ser	Ala	Arg	Arg	Asn	Thr	Ser	Phe	Trp	Gln	Tyr	Leu	Thr	Ser
4685						4690					4695			
Gln	Tyr	Phe	Thr	Asn	Val	Asn	Ser	Met	Asp	Thr	Val	Ser	Ala	Phe
4700						4705					4710			
Gly	Ile	Asp	Phe	Leu	Lys	Gly	Lys	Gly	Gly	Gly	Gly	Gly	Gly	Gly
4715						4720					4725			
Ala	Gly	Gly	Thr	Asp	Gln	Tyr	Lys	Leu	Arg	Met	Arg	Arg	Lys	Arg
4730						4735					4740			
Arg	Pro	Leu	Thr	Pro	Ser	Ser	Ser	Phe	Asp	Phe	Asp	Glu	Glu	Met
4745						4750					4755			
Ser	Met	Asp	Asn	Met	Pro	Thr	His	Thr	Pro	Ser	Glu	Ala	Ser	Asp
4760						4765					4770			
Ser	Ser	Phe	Asp	Ser	Gly	Ala	Met	Ala	Lys	Asn	Asp	Phe	Ser	Met
4775						4780					4785			
Pro	Asp	Met	Ser	Ala	Gly	Arg	Arg	Asp	Ser	Thr	Val	Phe	Pro	Ser
4790						4795					4800			
Leu	Phe	Leu	Ala	Thr	Glu	Met	Pro	Ser	Thr	Gln	Val	Lys	Glu	Glu
4805						4810					4815			
Glu	Glu	Glu	Glu	Glu	Pro	Val	Tyr	Glu	Pro	Gln	Met	Asn	Arg	Val
4820						4825					4830			
Lys	Gln	Thr	Val	Val	Ser	Leu	Phe	Ala	Arg	Asn	Phe	Tyr	Asn	Ile

4835		4840		4845
Lys Tyr Val Ala Leu Ala	Leu Val Phe Cys Ile	Asn Ile Leu Leu		
4850	4855	4860		
Leu Phe Phe Lys Val Ser	Tyr Leu Thr Ala Glu	Leu Glu Glu Val		
4865	4870	4875		
Asp Pro Tyr His Pro Val	Glu Ile Leu Glu Asn	Ala Thr Ser Pro		
4880	4885	4890		
Asn Gly Ala Asp Met Ala	Gly Asp Glu Asp Arg	Val Asp Asp Gln		
4895	4900	4905		
Ile Glu Gln Ile Leu Ile	Asn Gln Gln Phe Met	Tyr Leu Val Pro		
4910	4915	4920		
Val Leu Gln Val Leu Ser	Ile Leu His Ser Leu	Val Ser Ile Ser		
4925	4930	4935		
Met Leu Ile Ala Tyr Cys	Ala Leu Lys Val Pro	Leu Cys Leu Phe		
4940	4945	4950		
Lys Arg Glu Lys Glu Ile	Ala Arg Lys Leu Glu	Phe Asp Gly Gln		
4955	4960	4965		
Trp Ile Thr Glu Gln Pro	Thr Arg Asp Asp Ile	Lys Gly Gln Trp		
4970	4975	4980		
Asp Ser Leu Ala Ile Ser	Thr Val Ser Phe Pro	Val Tyr Tyr Trp		
4985	4990	4995		
Asp Lys Phe Val Lys Lys	Lys Val Leu Lys Lys	Tyr Glu Asp Ala		
5000	5005	5010		
Val Gly Glu Asp Lys Leu	Cys Ala Met Leu Gly	Met Glu Ile Gly		
5015	5020	5025		
Glu Asn Pro Met Ala Gly	Asn Pro Thr Glu Asn	Pro Asn Gln Gly		
5030	5035	5040		
Leu Phe Ser Ser Met Leu	Thr Ser Leu Asp Trp	Lys Tyr His Ile		
5045	5050	5055		
Trp Lys Cys Gly Val Ile	Gly Thr Asp Asn Ser	Phe Leu Tyr Ile		
5060	5065	5070		
Ala Trp Tyr Leu Leu Phe	Ser Leu Leu Gly His	Ile Asn Pro Phe		
5075	5080	5085		
Phe Phe Ala Ala His Leu	Leu Asp Ile Ala Met	Gly Phe Lys Thr		
5090	5095	5100		
Leu Arg Thr Val Leu Gln	Ser Val Thr His Asn	Gly Lys Gln Leu		
5105	5110	5115		
Val Leu Thr Leu Met Met	Thr Cys Val Ile Ile	Tyr Leu Tyr Thr		
5120	5125	5130		
Val Leu Ala Phe Asn Phe	Phe Arg Lys Phe Tyr	Thr Lys Asp Asp		

5135		5140		5145
Glu Gly	Glu Ile Glu Tyr	Lys Cys His Asn Met	Met	Ser Cys Phe
5150		5155	5160	
Val Phe	His Leu His Ser	Gly Leu Arg Ala Gly	Gly Gly	Gly Ile Ala
5165		5170	5175	
Asp Glu	Ile Glu Ala Pro	Asp Gly Asp Val Tyr	Glu Tyr Tyr Arg	
5180		5185	5190	
Ile Ile	Phe Asp Ile Thr	Phe Phe Phe Val	Ile Val Ile Leu	
5195		5200	5205	
Leu Ala	Ile Ile Gln Gly	Leu Ile Ile Asp Ala	Phe Gly Glu Leu	
5210		5215	5220	
Arg Asp	Gln Leu Glu Gln	Val Arg Glu Asp Met	Glu Thr Lys Cys	
5225		5230	5235	
Phe Ile	Cys Ser Ile Gly	Arg Glu Tyr Phe Asp	Lys Leu Pro His	
5240		5245	5250	
Gly Phe	Glu Leu His Thr	Ser Lys Glu His Asp	Leu Ser Asn Tyr	
5255		5260	5265	
Met Phe	Phe Leu Met Tyr	Leu Ile Asn Lys Pro	Glu Thr Glu His	
5270		5275	5280	
Thr Gly	Gln Glu Ser Tyr	Val Trp Gln Leu Tyr	Gln Gln Arg Cys	
5285		5290	5295	
Trp Asp	Phe Phe Pro Val	Gly Asp Cys Phe Arg	Lys Gln Tyr Asp	
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Asp Glu	Gln Ala			
5315				

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 <212> PRT
 <213> Mus musculus

<400> 60
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 Asp Asp Glu Val Val Leu Gln Cys Thr Ala Thr Ile His Lys Glu Gln
 20 25 30
 Gln Lys Leu Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg Leu Cys Phe
 35 40 45
 Leu Glu Ser Thr Ser Asn Ser Lys Asn Val Pro Pro Asp Leu Ser Ile
 50 55 60
 Cys Thr Phe Val Leu Glu Gln Ser Leu Ser Val Arg Ala Leu Gln Glu
 65 70 75 80

Met	Leu	Ala	Asn	Thr	Val	Glu	Lys	Ser	Glu	Gly	Gln	Val	Asp	Val	Glu	
				85					90					95		
Lys	Trp	Lys	Phe	Met	Met	Lys	Thr	Ala	Gln	Gly	Gly	Gly	His	Arg	Thr	
			100					105					110			
Leu	Leu	Tyr	Gly	His	Ala	Ile	Leu	Leu	Arg	His	Ser	Tyr	Ser	Gly	Met	
		115					120					125				
Tyr	Leu	Cys	Cys	Leu	Ser	Thr	Ser	Arg	Ser	Ser	Thr	Asp	Lys	Leu	Ala	
	130					135					140					
Phe	Asp	Val	Gly	Leu	Gln	Glu	Asp	Thr	Thr	Gly	Glu	Ala	Cys	Trp	Trp	
145					150					155					160	
Thr	Ile	His	Pro	Ala	Ser	Lys	Gln	Arg	Ser	Glu	Gly	Glu	Lys	Val	Arg	
				165				170						175		
Val	Gly	Asp	Asp	Leu	Ile	Leu	Val	Ser	Val	Ser	Ser	Glu	Arg	Tyr	Leu	
			180					185					190			
His	Leu	Ser	Tyr	Gly	Asn	Ser	Ser	Trp	His	Val	Asp	Ala	Ala	Phe	Gln	
		195					200					205				
Gln	Thr	Leu	Trp	Ser	Val	Ala	Pro	Ile	Ser	Ser	Gly	Ser	Glu	Ala	Ala	
	210					215					220					
Gln	Gly	Tyr	Leu	Ile	Gly	Gly	Asp	Val	Leu	Arg	Leu	Leu	His	Gly	His	
225					230					235					240	
Met	Asp	Glu	Cys	Leu	Thr	Val	Pro	Ser	Gly	Glu	His	Gly	Glu	Glu	Gln	
				245					250					255		
Arg	Arg	Thr	Val	His	Tyr	Glu	Gly	Gly	Ala	Val	Ser	Val	His	Ala	Arg	
			260					265					270			
Ser	Leu	Trp	Arg	Leu	Glu	Thr	Leu	Arg	Val	Ala	Trp	Ser	Gly	Ser	His	
		275					280					285				
Ile	Arg	Trp	Gly	Gln	Pro	Phe	Arg	Leu	Arg	His	Val	Thr	Thr	Gly	Lys	
	290					295					300					
Tyr	Leu	Ser	Leu	Met	Glu	Asp	Lys	Asn	Leu	Leu	Leu	Met	Asp	Lys	Glu	
305					310					315					320	
Lys	Ala	Asp	Val	Lys	Ser	Thr	Ala	Phe	Ala	Phe	Arg	Ser	Ser	Lys	Glu	
				325					330					335		
Lys	Leu	Asp	Val	Gly	Val	Arg	Lys	Glu	Val	Asp	Gly	Met	Gly	Thr	Ser	
			340					345					350			
Glu	Ile	Lys	Tyr	Gly	Asp	Ser	Ile	Cys	Tyr	Ile	Gln	His	Val	Asp	Thr	
	355						360					365				
Gly	Leu	Trp	Leu	Thr	Tyr	Gln	Ala	Val	Asp	Val	Lys	Ser	Ala	Arg	Met	
	370					375					380					
Gly	Ser	Ile	Gln	Arg	Lys	Ala	Ile	Met	His	His	Glu	Gly	His	Met	Asp	
385					390					395					400	

Asp	Gly	Leu	Asn	Leu	Ser	Arg	Ser	Gln	His	Glu	Glu	Ser	Arg	Thr	Ala		
				405					410						415		
Arg	Val	Ile	Arg	Ser	Thr	Val	Phe	Leu	Phe	Asn	Arg	Phe	Ile	Arg	Gly		
			420					425					430				
Leu	Asp	Ala	Leu	Ser	Lys	Lys	Val	Lys	Leu	Pro	Thr	Ile	Asp	Leu	Pro		
		435					440					445					
Ile	Glu	Ser	Val	Ser	Leu	Ser	Leu	Gln	Asp	Leu	Ile	Gly	Tyr	Phe	His		
	450					455					460						
Pro	Pro	Asp	Glu	His	Leu	Glu	His	Glu	Asp	Lys	Gln	Asn	Arg	Leu	Arg		
465					470					475					480		
Ala	Leu	Lys	Asn	Arg	Gln	Asn	Leu	Phe	Gln	Glu	Glu	Gly	Met	Ile	Asn		
				485					490					495			
Leu	Val	Leu	Glu	Cys	Ile	Asp	Arg	Leu	His	Val	Tyr	Ser	Ser	Ala	Ala		
			500					505					510				
His	Phe	Ala	Asp	Val	Ala	Gly	Arg	Glu	Ala	Gly	Glu	Ser	Trp	Lys	Ser		
	515						520					525					
Ile	Leu	Asn	Ser	Leu	Tyr	Glu	Leu	Leu	Ala	Ala	Leu	Ile	Arg	Gly	Asn		
	530					535					540						
Arg	Lys	Asn	Cys	Ala	Gln	Phe	Ser	Gly	Ser	Leu	Asp	Trp	Leu	Ile	Ser		
545					550					555					560		
Arg	Leu	Glu	Arg	Leu	Glu	Ala	Ser	Ser	Gly	Ile	Leu	Glu	Val	Leu	His		
				565					570					575			
Cys	Val	Leu	Val	Glu	Ser	Pro	Glu	Ala	Leu	Asn	Ile	Ile	Lys	Glu	Gly		
			580					585					590				
His	Ile	Lys	Ser	Ile	Ile	Ser	Leu	Leu	Asp	Lys	His	Gly	Arg	Asn	His		
	595						600					605					
Lys	Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Cys	His	Gly	Val	Ala		
	610					615					620						
Val	Arg	Ser	Asn	Gln	His	Leu	Ile	Cys	Asp	Asn	Leu	Leu	Pro	Gly	Arg		
625				630						635				640			
Asp	Leu	Leu	Leu	Gln	Thr	Arg	Leu	Val	Asn	His	Val	Ser	Ser	Met	Arg		
				645					650					655			
Pro	Asn	Ile	Phe	Leu	Gly	Val	Ser	Glu	Gly	Ser	Ala	Gln	Tyr	Lys	Lys		
			660					665					670				
Trp	Tyr	Tyr	Glu	Leu	Met	Val	Asp	His	Thr	Glu	Pro	Phe	Val	Thr	Ala		
	675						680					685					
Glu	Ala	Thr	His	Leu	Arg	Val	Gly	Trp	Ala	Ser	Thr	Glu	Gly	Tyr	Ser		
	690					695					700						
Pro	Tyr	Pro	Gly	Gly	Gly	Glu	Glu	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp		
705					710					715					720		

Asp	Leu	Phe	Ser	Tyr	Gly	Phe	Asp	Gly	Leu	His	Leu	Trp	Ser	Gly	Cys		
				725					730					735			
Ile	Ala	Arg	Thr	Val	Ser	Ser	Pro	Asn	Gln	His	Leu	Leu	Arg	Thr	Asp		
			740					745					750				
Asp	Val	Ile	Ser	Cys	Cys	Leu	Asp	Leu	Ser	Ala	Pro	Ser	Ile	Ser	Phe		
		755					760					765					
Arg	Ile	Asn	Gly	Gln	Pro	Val	Gln	Gly	Met	Phe	Glu	Asn	Phe	Asn	Ile		
	770					775					780						
Asp	Gly	Leu	Phe	Phe	Pro	Val	Val	Ser	Phe	Ser	Ala	Gly	Ile	Lys	Val		
785					790				795						800		
Arg	Phe	Leu	Leu	Gly	Gly	Arg	His	Gly	Glu	Phe	Lys	Phe	Leu	Pro	Pro		
			805					810						815			
Pro	Gly	Tyr	Ala	Ala	Cys	Tyr	Glu	Ala	Val	Leu	Pro	Lys	Glu	Lys	Leu		
		820					825						830				
Lys	Val	Glu	His	Ser	Arg	Glu	Tyr	Lys	Gln	Glu	Arg	Thr	Tyr	Thr	Arg		
	835					840					845						
Asp	Leu	Leu	Gly	Pro	Thr	Val	Ser	Leu	Thr	Gln	Ala	Ala	Phe	Thr	Pro		
	850					855					860						
Val	Pro	Val	Asp	Thr	Ser	Gln	Ile	Val	Leu	Pro	Pro	His	Leu	Glu	Arg		
865					870					875					880		
Ile	Arg	Glu	Arg	Leu	Ala	Glu	Asn	Ile	His	Glu	Leu	Trp	Val	Met	Asn		
			885				890							895			
Lys	Ile	Glu	Leu	Gly	Trp	Gln	Tyr	Gly	Pro	Val	Arg	Asp	Asp	Asn	Lys		
	900						905						910				
Arg	Gln	His	Pro	Cys	Leu	Val	Glu	Phe	Cys	Lys	Leu	Pro	Glu	Gln	Glu		
	915						920					925					
Arg	Asn	Tyr	Asn	Leu	Gln	Met	Ser	Leu	Glu	Thr	Leu	Lys	Thr	Leu	Leu		
	930					935					940						
Ala	Leu	Gly	Cys	His	Val	Gly	Ile	Ala	Asp	Glu	His	Ala	Glu	Glu	Lys		
945					950				955						960		
Val	Lys	Lys	Met	Lys	Leu	Pro	Lys	Asn	Tyr	Gln	Leu	Thr	Ser	Gly	Tyr		
			965					970						975			
Lys	Pro	Ala	Pro	Met	Asp	Leu	Ser	Phe	Ile	Lys	Leu	Thr	Pro	Ser	Gln		
		980						985					990				
Glu	Ala	Met	Val	Asp	Lys	Leu	Ala	Glu	Asn	Ala	His	Asn	Val	Trp	Ala		
	995						1000						1005				
Arg	Asp	Arg	Ile	Arg	Gln	Gly	Trp	Thr	Tyr	Gly	Ile	Gln	Gln	Asp			
	1010					1015					1020						
Val	Lys	Asn	Arg	Arg	Asn	Pro	Arg	Leu	Val	Pro	Tyr	Thr	Leu	Leu			
	1025					1030					1035						

Asp	Asp	Arg	Thr	Lys	Lys	Ser	Asn	Lys	Asp	Ser	Leu	Arg	Glu	Ala
1040						1045					1050			
Val	Arg	Thr	Leu	Leu	Gly	Tyr	Gly	Tyr	His	Leu	Glu	Ala	Pro	Asp
1055						1060					1065			
Gln	Asp	His	Ala	Ser	Arg	Ala	Glu	Val	Cys	Ser	Gly	Thr	Gly	Glu
1070						1075					1080			
Arg	Phe	Arg	Ile	Phe	Arg	Ala	Glu	Lys	Thr	Tyr	Ala	Val	Lys	Ala
1085						1090					1095			
Gly	Arg	Trp	Tyr	Phe	Glu	Phe	Glu	Ala	Val	Thr	Ala	Gly	Asp	Met
1100						1105					1110			
Arg	Val	Gly	Trp	Ser	Arg	Pro	Gly	Cys	Gln	Pro	Asp	Leu	Glu	Leu
1115						1120					1125			
Gly	Ser	Asp	Asp	Arg	Ala	Phe	Ala	Phe	Asp	Gly	Phe	Lys	Ala	Gln
1130						1135					1140			
Arg	Trp	His	Gln	Gly	Asn	Glu	His	Tyr	Gly	Arg	Ser	Trp	Gln	Ala
1145						1150					1155			
Gly	Asp	Val	Val	Gly	Cys	Met	Val	Asp	Met	Asn	Glu	His	Thr	Met
1160						1165					1170			
Met	Phe	Thr	Leu	Asn	Gly	Glu	Ile	Leu	Leu	Asp	Asp	Ser	Gly	Ser
1175						1180					1185			
Glu	Leu	Ala	Phe	Lys	Asp	Phe	Asp	Val	Gly	Asp	Gly	Phe	Ile	Pro
1190						1195					1200			
Val	Cys	Ser	Leu	Gly	Val	Ala	Gln	Val	Gly	Arg	Met	Asn	Phe	Gly
1205						1210					1215			
Lys	Asp	Val	Ser	Thr	Leu	Lys	Tyr	Phe	Thr	Ile	Cys	Gly	Leu	Gln
1220						1225					1230			
Glu	Gly	Tyr	Glu	Pro	Phe	Ala	Val	Asn	Thr	Asn	Arg	Asp	Ile	Thr
1235						1240					1245			
Met	Trp	Leu	Ser	Lys	Arg	Leu	Pro	Gln	Phe	Leu	Gln	Val	Pro	Ser
1250						1255					1260			
Asn	His	Glu	His	Ile	Glu	Val	Thr	Arg	Ile	Asp	Gly	Thr	Ile	Asp
1265						1270					1275			
Ser	Ser	Pro	Cys	Leu	Lys	Val	Thr	Gln	Lys	Ser	Phe	Gly	Ser	Gln
1280						1285					1290			
Asn	Asn	Asn	Thr	Asp	Ile	Met	Phe	Tyr	Arg	Leu	Ser	Met	Pro	Ile
1295						1300					1305			
Glu	Cys	Ala	Glu	Val	Phe	Ser	Lys	Ser	Val	Ala	Gly	Gly	Leu	Pro
1310						1315					1320			
Gly	Ala	Gly	Phe	Tyr	Gly	Pro	Lys	Ser	Asp	Leu	Glu	Asp	Phe	Asp
1325						1330					1335			

Val	Asp	Ser	Asp	Phe	Glu	Val	Leu	Met	Lys	Thr	Ala	His	Gly	His
1340						1345					1350			
Leu	Val	Pro	Asp	Arg	Ile	Asp	Lys	Asp	Lys	Glu	Thr	Pro	Lys	Pro
1355						1360					1365			
Glu	Phe	Asn	Asn	His	Lys	Asp	Tyr	Ala	Gln	Glu	Lys	Pro	Ser	Arg
1370						1375					1380			
Leu	Lys	Gln	Arg	Phe	Leu	Leu	Arg	Arg	Thr	Lys	Pro	Asp	Tyr	Ser
1385						1390					1395			
Thr	Gly	His	Ser	Ala	Arg	Leu	Thr	Glu	Asp	Val	Leu	Ala	Gly	Asp
1400						1405					1410			
Arg	Asp	Asp	Tyr	Glu	Tyr	Leu	Met	Gln	Thr	Ser	Thr	Tyr	Tyr	Tyr
1415						1420					1425			
Ser	Val	Arg	Ile	Phe	Pro	Gly	Gln	Glu	Pro	Ala	Asn	Val	Trp	Val
1430						1435					1440			
Gly	Trp	Ile	Thr	Ser	Asp	Phe	His	Gln	Tyr	Asp	Thr	Gly	Phe	Asp
1445						1450					1455			
Leu	Asp	Arg	Val	Arg	Thr	Val	Thr	Val	Thr	Leu	Gly	Asp	Glu	Lys
1460						1465					1470			
Gly	Lys	Val	His	Glu	Ser	Ile	Lys	Arg	Ser	Asn	Cys	Tyr	Met	Val
1475						1480					1485			
Cys	Ala	Gly	Glu	Ser	Met	Ser	Pro	Gly	Gln	Gly	Arg	Asn	Asn	Ser
1490						1495					1500			
Asn	Gly	Leu	Glu	Ile	Gly	Cys	Val	Val	Asp	Ala	Ala	Ser	Gly	Leu
1505						1510					1515			
Leu	Thr	Phe	Ile	Ala	Asn	Gly	Lys	Glu	Leu	Ser	Thr	Tyr	Tyr	Gln
1520						1525					1530			
Val	Glu	Pro	Ser	Thr	Lys	Leu	Phe	Pro	Ala	Val	Phe	Ala	Gln	Ala
1535						1540					1545			
Thr	Ser	Pro	Asn	Val	Phe	Gln	Phe	Glu	Leu	Gly	Arg	Ile	Lys	Asn
1550						1555					1560			
Val	Met	Pro	Leu	Ser	Ala	Gly	Leu	Phe	Lys	Ser	Glu	His	Lys	Asn
1565						1570					1575			
Pro	Val	Pro	Gln	Cys	Pro	Pro	Arg	Leu	His	Val	Gln	Phe	Leu	Ser
1580						1585					1590			
His	Val	Leu	Trp	Ser	Arg	Met	Pro	Asn	Gln	Phe	Leu	Lys	Val	Asp
1595						1600					1605			
Val	Ser	Arg	Ile	Ser	Glu	Arg	Gln	Gly	Trp	Leu	Val	Gln	Cys	Leu
1610						1615					1620			
Asp	Pro	Leu	Gln	Phe	Met	Ser	Leu	His	Ile	Pro	Glu	Glu	Asn	Arg
1625						1630					1635			

Ser	Val	Asp	Ile	Leu	Glu	Leu	Thr	Glu	Gln	Glu	Glu	Leu	Leu	Gln
1640						1645					1650			
Phe	His	Tyr	His	Thr	Leu	Arg	Leu	Tyr	Ser	Ala	Val	Cys	Ala	Leu
1655						1660					1665			
Gly	Asn	His	Arg	Val	Ala	His	Ala	Leu	Cys	Ser	His	Val	Asp	Glu
1670						1675					1680			
Pro	Gln	Leu	Leu	Tyr	Ala	Ile	Glu	Asn	Lys	Tyr	Met	Pro	Gly	Leu
1685						1690					1695			
Leu	Arg	Ala	Gly	Tyr	Tyr	Asp	Leu	Leu	Ile	Asp	Ile	His	Leu	Ser
1700						1705					1710			
Ser	Tyr	Ala	Thr	Ala	Arg	Leu	Met	Met	Asn	Asn	Glu	Phe	Ile	Val
1715						1720					1725			
Pro	Met	Thr	Glu	Glu	Thr	Lys	Ser	Ile	Thr	Leu	Phe	Pro	Asp	Glu
1730						1735					1740			
Asn	Lys	Lys	His	Gly	Leu	Pro	Gly	Ile	Gly	Leu	Ser	Thr	Ser	Leu
1745						1750					1755			
Arg	Pro	Arg	Met	Arg	Phe	Ser	Ser	Pro	Ser	Phe	Val	Ser	Ile	Ser
1760						1765					1770			
Asn	Asp	Cys	Tyr	Gln	Tyr	Ser	Pro	Glu	Phe	Pro	Leu	Asp	Ile	Leu
1775						1780					1785			
Lys	Ala	Lys	Thr	Ile	Gln	Met	Leu	Thr	Glu	Ala	Val	Lys	Glu	Gly
1790						1795					1800			
Ser	Leu	His	Ala	Arg	Asp	Pro	Val	Gly	Gly	Thr	Thr	Glu	Phe	Leu
1805						1810					1815			
Phe	Val	Pro	Leu	Ile	Lys	Leu	Phe	Tyr	Thr	Leu	Leu	Ile	Met	Gly
1820						1825					1830			
Ile	Phe	His	Asn	Glu	Asp	Leu	Lys	His	Ile	Leu	Gln	Leu	Ile	Glu
1835						1840					1845			
Pro	Ser	Val	Phe	Lys	Glu	Ala	Ala	Val	Pro	Glu	Glu	Glu	Gly	Gly
1850						1855					1860			
Thr	Pro	Glu	Lys	Glu	Ile	Ser	Ile	Glu	Asp	Ala	Lys	Leu	Glu	Gly
1865						1870					1875			
Glu	Glu	Glu	Ala	Lys	Gly	Gly	Lys	Arg	Pro	Lys	Glu	Gly	Leu	Leu
1880						1885					1890			
Gln	Met	Lys	Leu	Pro	Glu	Pro	Val	Lys	Leu	Gln	Met	Cys	Leu	Leu
1895						1900					1905			
Leu	Gln	Tyr	Leu	Cys	Asp	Cys	Gln	Val	Arg	His	Arg	Ile	Glu	Ala
1910						1915					1920			
Ile	Val	Ala	Phe	Ser	Asp	Asp	Phe	Val	Ala	Lys	Leu	Gln	Asp	Asn
1925						1930					1935			

Gln Arg Phe Arg Tyr Asn Glu Val Met Gln Ala Leu Asn Met Ser	1940	1945	1950
Ala Ala Leu Thr Ala Arg Lys Thr Lys Glu Phe Arg Ser Pro Pro	1955	1960	1965
Gln Glu Gln Ile Asn Met Leu Leu Asn Phe Lys Asp Asp Lys Ser	1970	1975	1980
Glu Cys Pro Cys Pro Glu Glu Ile Arg Asp Gln Leu Leu Asp Phe	1985	1990	1995
His Glu Asp Leu Met Thr His Cys Gly Ile Glu Leu Asp Glu Asp	2000	2005	2010
Gly Ser Leu Asp Gly Ser Asn Asp Leu Thr Ile Arg Gly Arg Leu	2015	2020	2025
Leu Ser Leu Val Glu Lys Val Thr Tyr Leu Lys Lys Lys Gln Ala	2030	2035	2040
Glu Lys Pro Val Ala Ser Asp Ser Arg Lys Cys Ser Ser Leu Gln	2045	2050	2055
Gln Leu Ile Ser Glu Thr Met Val Arg Trp Ala Gln Glu Ser Val	2060	2065	2070
Ile Glu Asp Pro Glu Leu Val Arg Ala Met Phe Val Leu Leu His	2075	2080	2085
Arg Gln Tyr Asp Gly Ile Gly Gly Leu Val Arg Ala Leu Pro Lys	2090	2095	2100
Thr Tyr Thr Ile Asn Gly Val Ser Val Glu Asp Thr Ile Asn Leu	2105	2110	2115
Leu Ala Ser Leu Gly Gln Ile Arg Ser Leu Leu Ser Val Arg Met	2120	2125	2130
Gly Lys Glu Glu Glu Lys Leu Met Ile Arg Gly Leu Gly Asp Ile	2135	2140	2145
Met Asn Asn Lys Val Phe Tyr Gln His Pro Asn Leu Met Arg Ala	2150	2155	2160
Leu Gly Met His Glu Thr Val Met Glu Val Met Val Asn Val Leu	2165	2170	2175
Gly Gly Gly Glu Ser Lys Glu Ile Thr Phe Pro Lys Met Val Ala	2180	2185	2190
Asn Cys Cys Arg Phe Leu Cys Tyr Phe Cys Arg Ile Ser Arg Gln	2195	2200	2205
Asn Gln Lys Ala Met Phe Asp His Leu Ser Tyr Leu Leu Glu Asn	2210	2215	2220
Ser Ser Val Gly Leu Ala Ser Pro Ala Met Arg Gly Ser Thr Pro	2225	2230	2235

Leu Asp 2240	Val Ala Ala Ala	Ser 2245	Val Met Asp Asn Asn	Glu Leu Ala 2250
Leu Ala 2255	Leu Arg Glu Pro	Asp 2260	Leu Glu Lys Val Val	Ala Arg Tyr 2265
Leu Ala 2270	Gly Cys Gly Leu	Gln 2275	Ser Cys Gln Met Leu	Val Ser Lys 2280
Gly Tyr 2285	Pro Asp Ile Gly	Trp 2290	Asn Pro Val Glu Gly	Glu Arg Tyr 2295
Leu Asp 2300	Phe Leu Arg Phe	Ala 2305	Val Phe Cys Asn Gly	Glu Ser Val 2310
Glu Glu 2315	Asn Ala Asn Val	Val 2320	Val Arg Leu Leu Ile	Arg Arg Pro 2325
Glu Cys 2330	Phe Gly Pro Ala	Leu 2335	Arg Gly Glu Gly Gly	Asn Gly Leu 2340
Leu Ala 2345	Ala Met Glu Glu	Ala 2350	Ile Lys Ile Ala Glu	Asp Pro Ser 2355
Arg Asp 2360	Gly Pro Ser Pro	Thr 2365	Ser Gly Ser Ser Lys	Thr Leu Asp 2370
Ile Glu 2375	Glu Glu Glu Asp	Asp 2380	Thr Ile His Met Gly	Asn Ala Ile 2385
Met Thr 2390	Phe Tyr Ala Ala	Leu 2395	Ile Asp Leu Leu Gly	Arg Cys Ala 2400
Pro Glu 2405	Met His Leu Ile	His 2410	Ala Gly Lys Gly Glu	Ala Ile Arg 2415
Ile Arg 2420	Ser Ile Leu Arg	Ser 2425	Leu Ile Pro Leu Gly	Asp Leu Val 2430
Gly Val 2435	Ile Ser Ile Ala	Phe 2440	Gln Met Pro Thr Ile	Ala Lys Asp 2445
Gly Lys 2450	Val Val Glu Pro	Asp 2455	Met Ser Ala Gly Phe	Cys Pro Asp 2460
His Lys 2465	Ala Ala Met Val	Leu 2470	Phe Leu Asp Arg Val	Tyr Gly Ile 2475
Glu Val 2480	Gln Asp Phe Leu	Leu 2485	His Leu Leu Glu Val	Gly Phe Leu 2490
Pro Asp 2495	Leu Arg Ala Ala	Ala 2500	Ser Leu Asp Thr Ala	Ala Leu Ser 2505
Ala Thr 2510	Asp Met Ala Leu	Ala 2515	Leu Asn Arg Tyr Leu	Cys Thr Ala 2520
Val Leu 2525	Pro Leu Leu Thr	Arg 2530	Cys Ala Arg Leu Phe	Ala Gly Thr 2535

Glu	His	His	Ala	Ser	Leu	Ile	Asp	Ser	Leu	Leu	His	Thr	Val	Tyr
2540						2545					2550			
Arg	Leu	Ser	Lys	Gly	Cys	Ser	Leu	Thr	Lys	Ala	Gln	Arg	Asp	Ser
2555						2560					2565			
Ile	Glu	Val	Cys	Leu	Leu	Ser	Ile	Cys	Gly	Gln	Leu	Arg	Pro	Ser
2570						2575					2580			
Met	Met	Gln	His	Leu	Leu	Arg	Arg	Leu	Val	Phe	Asp	Val	Pro	Leu
2585						2590					2595			
Leu	Asn	Glu	His	Ala	Lys	Met	Pro	Leu	Lys	Leu	Leu	Thr	Asn	His
2600						2605					2610			
Tyr	Glu	Arg	Cys	Trp	Lys	Tyr	Tyr	Cys	Leu	Pro	Gly	Gly	Trp	Gly
2615						2620					2625			
Asn	Phe	Gly	Ala	Ala	Ser	Glu	Glu	Glu	Leu	His	Leu	Ser	Arg	Lys
2630						2635					2640			
Leu	Phe	Trp	Gly	Ile	Phe	Asp	Ala	Leu	Ser	Gln	Lys	Lys	Tyr	Glu
2645						2650					2655			
Gln	Glu	Leu	Phe	Lys	Leu	Ala	Leu	Pro	Cys	Leu	Ser	Ala	Val	Ala
2660						2665					2670			
Gly	Ala	Leu	Pro	Pro	Asp	Tyr	Met	Glu	Ser	Asn	Tyr	Val	Ser	Met
2675						2680					2685			
Met	Glu	Lys	Gln	Ser	Ser	Met	Asp	Ser	Glu	Gly	Asn	Phe	Asn	Pro
2690						2695					2700			
Gln	Pro	Val	Asp	Thr	Ser	Asn	Ile	Thr	Ile	Pro	Glu	Lys	Leu	Glu
2705						2710					2715			
Tyr	Phe	Ile	Asn	Lys	Tyr	Ala	Glu	His	Ser	His	Asp	Lys	Trp	Ser
2720						2725					2730			
Met	Asp	Lys	Leu	Ala	Asn	Gly	Trp	Ile	Tyr	Gly	Glu	Ile	Tyr	Ser
2735						2740					2745			
Asp	Ser	Ser	Lys	Ile	Gln	Pro	Leu	Met	Lys	Pro	Tyr	Lys	Leu	Leu
2750						2755					2760			
Ser	Glu	Lys	Glu	Lys	Glu	Ile	Tyr	Arg	Trp	Pro	Ile	Lys	Glu	Ser
2765						2770					2775			
Leu	Lys	Thr	Met	Leu	Ala	Trp	Gly	Trp	Arg	Ile	Glu	Arg	Thr	Arg
2780						2785					2790			
Glu	Gly	Asp	Ser	Met	Ala	Leu	Tyr	Asn	Arg	Thr	Arg	Arg	Ile	Ser
2795						2800					2805			
Gln	Thr	Ser	Gln	Val	Ser	Ile	Asp	Ala	Ala	His	Gly	Tyr	Ser	Pro
2810						2815					2820			
Arg	Ala	Ile	Asp	Met	Ser	Asn	Val	Thr	Leu	Ser	Arg	Asp	Leu	His
2825						2830					2835			

Ala Met	Ala Glu Met Met	Ala	Glu Asn Tyr His	Asn	Ile Trp Ala
2840		2845		2850	
Lys Lys	Lys Lys Leu Glu	Leu	Glu Ser Lys Gly	Gly	Gly Asn His
2855		2860		2865	
Pro Leu	Leu Val Pro Tyr	Asp	Thr Leu Thr Ala	Lys	Glu Lys Ala
2870		2875		2880	
Lys Asp	Arg Glu Lys Ala	Gln	Asp Ile Phe Lys	Phe	Leu Gln Ile
2885		2890		2895	
Ser Gly	Tyr Val Val Ser	Arg	Gly Phe Lys Asp	Leu	Asp Leu Asp
2900		2905		2910	
Thr Pro	Ser Ile Glu Lys	Arg	Phe Ala Tyr Ser	Phe	Leu Gln Gln
2915		2920		2925	
Leu Ile	Arg Tyr Val Asp	Glu	Ala His Gln Tyr	Ile	Leu Glu Phe
2930		2935		2940	
Asp Gly	Gly Ser Arg Ser	Lys	Gly Glu His Phe	Pro	Tyr Glu Gln
2945		2950		2955	
Glu Ile	Lys Phe Phe Ala	Lys	Val Val Leu Pro	Leu	Ile Asp Gln
2960		2965		2970	
Tyr Phe	Lys Asn His Arg	Leu	Tyr Phe Leu Ser	Ala	Ala Ser Arg
2975		2980		2985	
Pro Leu	Cys Thr Gly Gly	His	Ala Ser Asn Lys	Glu	Lys Glu Met
2990		2995		3000	
Val Thr	Ser Leu Phe Cys	Lys	Leu Gly Val Leu	Val	Arg His Arg
3005		3010		3015	
Ile Ser	Leu Phe Gly Asn	Asp	Ala Thr Ser Ile	Val	Asn Cys Leu
3020		3025		3030	
His Ile	Leu Gly Gln Thr	Leu	Asp Ala Arg Thr	Val	Met Lys Thr
3035		3040		3045	
Gly Leu	Asp Ser Val Lys	Ser	Ala Leu Arg Ala	Phe	Leu Asp Asn
3050		3055		3060	
Ala Ala	Glu Asp Leu Glu	Lys	Thr Met Glu Asn	Leu	Lys Gln Gly
3065		3070		3075	
Gln Phe	Thr His Thr Arg	Ser	Gln Pro Lys Gly	Val	Thr Gln Ile
3080		3085		3090	
Ile Asn	Tyr Thr Thr Val	Ala	Leu Leu Pro Met	Leu	Ser Ser Leu
3095		3100		3105	
Phe Glu	His Ile Gly Gln	His	Gln Phe Gly Glu	Asp	Leu Ile Leu
3110		3115		3120	
Glu Asp	Val Gln Val Ser	Cys	Tyr Arg Ile Leu	Thr	Ser Leu Tyr
3125		3130		3135	

Ala Leu Gly Thr Ser Lys Ser Ile Tyr Val Glu Arg Gln Arg Ser	3140	3145	3150
Ala Leu Gly Glu Cys Leu Ala Ala Phe Ala Gly Ala Phe Pro Ile	3155	3160	3165
Ala Phe Leu Glu Thr His Leu Asp Lys His Asn Val Tyr Ser Ile	3170	3175	3180
Tyr Asn Thr Arg Ser Ser Arg Glu Arg Thr Ala Leu Ser Leu Pro	3185	3190	3195
Ala Asn Val Glu Asp Val Cys Pro Asn Ile Pro Ser Leu Glu Lys	3200	3205	3210
Leu Met Thr Glu Ile Ile Glu Leu Ala Glu Ser Gly Ile Arg Tyr	3215	3220	3225
Thr Gln Met Pro Tyr Met Met Glu Val Val Leu Pro Met Leu Cys	3230	3235	3240
Ser Tyr Met Ser Arg Trp Trp Glu His Gly Pro Glu Asn His Pro	3245	3250	3255
Glu Arg Ala Glu Met Cys Cys Thr Ala Leu Asn Ser Glu His Met	3260	3265	3270
Asn Thr Leu Leu Gly Asn Ile Leu Lys Ile Ile Tyr Asn Asn Leu	3275	3280	3285
Gly Ile Asp Glu Gly Ala Trp Met Lys Arg Leu Ala Val Phe Ser	3290	3295	3300
Gln Pro Ile Ile Asn Lys Val Lys Pro Gln Leu Leu Lys Thr His	3305	3310	3315
Phe Leu Pro Leu Met Glu Lys Leu Lys Lys Lys Ala Ala Met Val	3320	3325	3330
Val Ser Glu Glu Asp His Leu Lys Ala Glu Ala Arg Gly Asp Met	3335	3340	3345
Ser Glu Ala Glu Leu Leu Ile Leu Asp Glu Phe Thr Thr Leu Ala	3350	3355	3360
Arg Asp Leu Tyr Ala Phe Tyr Pro Leu Leu Ile Arg Phe Val Asp	3365	3370	3375
Tyr Asn Arg Ala Lys Trp Leu Lys Glu Pro Asn Pro Glu Ala Glu	3380	3385	3390
Glu Leu Phe Arg Met Val Ala Glu Val Phe Ile Tyr Trp Ser Lys	3395	3400	3405
Ser His Asn Phe Lys Arg Glu Glu Gln Asn Phe Val Val Gln Asn	3410	3415	3420
Glu Ile Asn Asn Met Ser Phe Leu Ile Thr Asp Thr Lys Ser Lys	3425	3430	3435

Met	Ser	Lys	Ala	Ala	Ile	Ser	Asp	Gln	Glu	Arg	Lys	Lys	Met	Lys
3440						3445					3450			
Arg	Lys	Gly	Asp	Arg	Tyr	Ser	Met	Gln	Thr	Ser	Leu	Ile	Val	Ala
3455						3460					3465			
Ala	Leu	Lys	Arg	Leu	Leu	Pro	Ile	Gly	Leu	Asn	Ile	Cys	Ala	Pro
3470						3475					3480			
Gly	Asp	Gln	Glu	Leu	Ile	Ala	Leu	Ala	Lys	Asn	Arg	Phe	Ser	Leu
3485						3490					3495			
Lys	Asp	Thr	Glu	Glu	Glu	Val	Arg	Asp	Ile	Ile	Arg	Ser	Asn	Ile
3500						3505					3510			
His	Leu	Gln	Gly	Lys	Leu	Glu	Asp	Pro	Ala	Ile	Arg	Trp	Gln	Met
3515						3520					3525			
Ala	Leu	Tyr	Lys	Asp	Phe	Pro	Asn	Arg	Thr	Glu	Asp	Pro	Ser	Asp
3530						3535					3540			
Pro	Glu	Arg	Thr	Val	Glu	Arg	Val	Leu	Gly	Ile	Ala	Asn	Val	Leu
3545						3550					3555			
Phe	His	Leu	Glu	Gln	Lys	Ser	Lys	Tyr	Thr	Gly	Arg	Gly	Tyr	Phe
3560						3565					3570			
Ser	Leu	Val	Glu	His	Pro	Gln	Arg	Ser	Lys	Lys	Ala	Val	Trp	His
3575						3580					3585			
Lys	Leu	Leu	Ser	Lys	Gln	Arg	Lys	Arg	Ala	Val	Val	Ala	Cys	Phe
3590						3595					3600			
Arg	Met	Ala	Pro	Leu	Tyr	Asn	Leu	Pro	Arg	His	Arg	Ala	Val	Asn
3605						3610					3615			
Leu	Phe	Leu	Gln	Gly	Tyr	Glu	Lys	Ser	Trp	Ile	Glu	Thr	Glu	Glu
3620						3625					3630			
His	Tyr	Phe	Glu	Asp	Lys	Leu	Ile	Glu	Asp	Leu	Ala	Lys	Pro	Gly
3635						3640					3645			
Ala	Glu	Leu	Pro	Glu	Glu	Asp	Glu	Ala	Met	Lys	Arg	Val	Asp	Pro
3650						3655					3660			
Leu	His	Gln	Leu	Ile	Leu	Leu	Phe	Ser	Arg	Thr	Ala	Leu	Thr	Glu
3665						3670					3675			
Lys	Cys	Lys	Leu	Glu	Glu	Asp	Phe	Leu	Tyr	Met	Ala	Tyr	Ala	Asp
3680						3685					3690			
Ile	Met	Ala	Lys	Ser	Cys	His	Asp	Glu	Glu	Asp	Asp	Asp	Gly	Glu
3695						3700					3705			
Glu	Glu	Val	Lys	Ser	Phe	Glu	Glu	Lys	Glu	Met	Glu	Lys	Gln	Lys
3710						3715					3720			
Leu	Leu	Tyr	Gln	Gln	Ala	Arg	Leu	His	Asp	Arg	Gly	Ala	Ala	Glu
3725						3730					3735			

Met	Val	Leu	Gln	Thr	Ile	Ser	Ala	Ser	Lys	Gly	Glu	Thr	Gly	Pro
3740						3745					3750			
Met	Val	Ala	Ala	Thr	Leu	Lys	Leu	Gly	Ile	Ala	Ile	Leu	Asn	Gly
3755						3760					3765			
Gly	Asn	Ser	Thr	Val	Gln	Gln	Lys	Met	Leu	Asp	Tyr	Leu	Lys	Glu
3770						3775					3780			
Lys	Lys	Asp	Val	Gly	Phe	Phe	Gln	Ser	Leu	Ala	Gly	Leu	Met	Gln
3785						3790					3795			
Ser	Cys	Ser	Val	Leu	Asp	Leu	Asn	Ala	Phe	Glu	Arg	Gln	Asn	Lys
3800						3805					3810			
Ala	Glu	Gly	Leu	Gly	Met	Val	Thr	Glu	Glu	Gly	Ser	Gly	Glu	Lys
3815						3820					3825			
Val	Leu	Gln	Asp	Asp	Glu	Phe	Thr	Cys	Asp	Leu	Phe	Arg	Phe	Leu
3830						3835					3840			
Gln	Leu	Leu	Cys	Glu	Gly	His	Asn	Ser	Asp	Phe	Gln	Asn	Tyr	Leu
3845						3850					3855			
Arg	Thr	Gln	Thr	Gly	Asn	Asn	Thr	Thr	Val	Asn	Ile	Ile	Ile	Ser
3860						3865					3870			
Thr	Val	Asp	Tyr	Leu	Leu	Arg	Val	Gln	Glu	Ser	Ile	Ser	Asp	Phe
3875						3880					3885			
Tyr	Trp	Tyr	Tyr	Ser	Gly	Lys	Asp	Ile	Ile	Asp	Glu	Gln	Gly	Gln
3890						3895					3900			
Arg	Asn	Phe	Ser	Lys	Ala	Ile	Gln	Val	Ala	Lys	Gln	Val	Phe	Asn
3905						3910					3915			
Thr	Leu	Thr	Glu	Tyr	Ile	Gln	Gly	Pro	Cys	Thr	Gly	Asn	Gln	Gln
3920						3925					3930			
Ser	Leu	Ala	His	Ser	Arg	Leu	Trp	Asp	Ala	Val	Val	Gly	Phe	Leu
3935						3940					3945			
His	Val	Phe	Ala	His	Met	Gln	Met	Lys	Leu	Ser	Gln	Asp	Ser	Ser
3950						3955					3960			
Gln	Ile	Glu	Leu	Leu	Lys	Glu	Leu	Met	Asp	Leu	Gln	Lys	Asp	Met
3965						3970					3975			
Val	Val	Met	Leu	Leu	Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly
3980						3985					3990			
Thr	Ile	Gly	Lys	Gln	Met	Val	Asp	Met	Leu	Val	Glu	Ser	Ser	Asn
3995						4000					4005			
Asn	Val	Glu	Met	Ile	Leu	Lys	Phe	Phe	Asp	Met	Phe	Leu	Lys	Leu
4010						4015					4020			
Lys	Asp	Leu	Thr	Ser	Ser	Asp	Thr	Phe	Lys	Glu	Tyr	Asp	Pro	Asp
4025						4030					4035			

Gly	Lys	Gly	Val	Ile	Ser	Lys	Arg	Asp	Phe	His	Lys	Ala	Met	Glu
4040						4045					4050			
Ser	His	Lys	His	Tyr	Thr	Gln	Ser	Glu	Thr	Glu	Phe	Leu	Leu	Ser
4055						4060					4065			
Cys	Ala	Glu	Thr	Asp	Glu	Asn	Glu	Thr	Leu	Asp	Tyr	Glu	Glu	Phe
4070						4075					4080			
Val	Lys	Arg	Phe	His	Glu	Pro	Ala	Lys	Asp	Ile	Gly	Phe	Asn	Val
4085						4090					4095			
Ala	Val	Leu	Leu	Thr	Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Asp	Thr
4100						4105					4110			
Arg	Leu	Gln	Thr	Phe	Leu	Glu	Leu	Ala	Glu	Ser	Val	Leu	Asn	Tyr
4115						4120					4125			
Phe	Gln	Pro	Phe	Leu	Gly	Arg	Ile	Glu	Ile	Met	Gly	Ser	Ala	Lys
4130						4135					4140			
Arg	Ile	Glu	Arg	Val	Tyr	Phe	Glu	Ile	Ser	Glu	Ser	Ser	Arg	Thr
4145						4150					4155			
Gln	Trp	Glu	Lys	Pro	Gln	Val	Lys	Glu	Ser	Lys	Arg	Gln	Phe	Ile
4160						4165					4170			
Phe	Asp	Val	Val	Asn	Glu	Gly	Gly	Glu	Lys	Glu	Lys	Met	Glu	Leu
4175						4180					4185			
Phe	Val	Asn	Phe	Cys	Glu	Asp	Thr	Ile	Phe	Glu	Met	Gln	Leu	Ala
4190						4195					4200			
Ala	Gln	Ile	Ser	Glu	Ser	Asp	Leu	Asn	Glu	Arg	Leu	Ala	Asn	Lys
4205						4210					4215			
Glu	Glu	Ser	Glu	Lys	Glu	Arg	Pro	Glu	Glu	Gln	Ala	Pro	Arg	Met
4220						4225					4230			
Gly	Phe	Phe	Ser	Leu	Leu	Thr	Ile	Gln	Ser	Ala	Leu	Phe	Ala	Leu
4235						4240					4245			
Arg	Tyr	Asn	Val	Leu	Thr	Leu	Val	Arg	Met	Leu	Ser	Leu	Lys	Ser
4250						4255					4260			
Leu	Lys	Lys	Gln	Met	Lys	Arg	Met	Lys	Lys	Met	Thr	Val	Lys	Asp
4265						4270					4275			
Met	Val	Leu	Ala	Phe	Phe	Ser	Ser	Tyr	Trp	Ser	Val	Phe	Val	Thr
4280						4285					4290			
Leu	Leu	His	Phe	Val	Ala	Ser	Val	Cys	Arg	Gly	Phe	Phe	Arg	Ile
4295						4300					4305			
Val	Ser	Ser	Leu	Leu	Leu	Gly	Gly	Ser	Leu	Val	Glu	Gly	Ala	Lys
4310						4315					4320			
Lys	Ile	Lys	Val	Ala	Glu	Leu	Leu	Ala	Asn	Met	Pro	Asp	Pro	Thr
4325						4330					4335			

Gln Asp	Glu Val Arg Gly Asp	Glu Glu Glu Gly Glu	Arg Lys Pro
4340	4345	4350	
Leu Glu	Ser Ala Leu Pro Ser	Glu Asp Leu Thr Asp	Leu Lys Glu
4355	4360	4365	
Leu Thr	Glu Glu Ser Asp Leu	Leu Ser Asp Ile Phe	Gly Leu Asp
4370	4375	4380	
Leu Lys	Arg Glu Gly Gly Gln	Tyr Lys Leu Ile Pro	His Asn Pro
4385	4390	4395	
Asn Ala	Gly Leu Ser Asp Leu	Met Thr Asn Pro Val	Pro Val Pro
4400	4405	4410	
Glu Val	Gln Glu Lys Phe Gln	Glu Gln Lys Ala Lys	Glu Glu Lys
4415	4420	4425	
Glu Glu	Lys Glu Glu Thr Lys	Ser Glu Pro Glu Lys	Ala Glu Gly
4430	4435	4440	
Glu Asp	Gly Glu Lys Glu Glu	Lys Ala Lys Asp Glu	Lys Ser Lys
4445	4450	4455	
Gln Lys	Leu Arg Gln Leu His	Thr His Arg Tyr Gly	Glu Pro Glu
4460	4465	4470	
Val Pro	Glu Ser Ala Phe Trp	Lys Lys Ile Ile Ala	Tyr Gln Gln
4475	4480	4485	
Lys Leu	Leu Asn Tyr Phe Ala	Arg Asn Phe Tyr Asn	Met Arg Met
4490	4495	4500	
Leu Ala	Leu Phe Val Ala Phe	Ala Ile Asn Phe Ile	Leu Leu Phe
4505	4510	4515	
Tyr Lys	Val Ser Thr Ser Ser	Val Val Glu Gly Lys	Glu Leu Pro
4520	4525	4530	
Thr Arg	Thr Ser Ser Asp Thr	Ala Lys Val Thr Asn	Ser Leu Asp
4535	4540	4545	
Ser Ser	Pro His Arg Ile Ile	Ala Val His Tyr Val	Leu Glu Glu
4550	4555	4560	
Ser Ser	Gly Tyr Met Glu Pro	Thr Leu Arg Ile Leu	Ala Ile Leu
4565	4570	4575	
His Thr	Ile Ile Ser Phe Phe	Cys Ile Ile Gly Tyr	Tyr Cys Leu
4580	4585	4590	
Lys Val	Pro Leu Val Ile Phe	Lys Arg Glu Lys Glu	Val Ala Arg
4595	4600	4605	
Lys Leu	Glu Phe Asp Gly Leu	Tyr Ile Thr Glu Gln	Pro Ser Glu
4610	4615	4620	
Asp Asp	Ile Lys Gly Gln Trp	Asp Arg Leu Val Ile	Asn Thr Gln
4625	4630	4635	

Ser	Phe	Pro	Asn	Asn	Tyr	Trp	Asp	Lys	Phe	Val	Lys	Arg	Lys	Val
4640						4645					4650			
Met	Asp	Lys	Tyr	Gly	Glu	Phe	Tyr	Gly	Arg	Asp	Arg	Ile	Ser	Glu
4655						4660					4665			
Leu	Leu	Gly	Met	Asp	Lys	Ala	Ala	Leu	Asp	Phe	Ser	Asp	Ala	Arg
4670						4675					4680			
Glu	Lys	Lys	Lys	Pro	Lys	Lys	Asp	Ser	Ser	Leu	Ser	Ala	Val	Leu
4685						4690					4695			
Asn	Ser	Ile	Asp	Val	Lys	Tyr	Gln	Met	Trp	Lys	Leu	Gly	Val	Val
4700						4705					4710			
Phe	Thr	Asp	Asn	Ser	Phe	Leu	Tyr	Leu	Ala	Trp	Tyr	Met	Thr	Met
4715						4720					4725			
Ser	Val	Leu	Gly	His	Tyr	Asn	Asn	Phe	Phe	Phe	Ala	Ala	His	Leu
4730						4735					4740			
Leu	Asp	Ile	Ala	Met	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile	Leu	Ser
4745						4750					4755			
Ser	Val	Thr	His	Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Gly	Leu
4760						4765					4770			
Leu	Ala	Val	Val	Val	Tyr	Leu	Tyr	Thr	Val	Val	Ala	Phe	Asn	Phe
4775						4780					4785			
Phe	Arg	Lys	Phe	Tyr	Asn	Lys	Ser	Glu	Asp	Gly	Asp	Thr	Pro	Asp
4790						4795					4800			
Met	Lys	Cys	Asp	Asp	Met	Leu	Thr	Cys	Tyr	Met	Phe	His	Met	Tyr
4805						4810					4815			
Val	Gly	Val	Arg	Ala	Gly	Gly	Gly	Ile	Gly	Asp	Glu	Ile	Glu	Asp
4820						4825					4830			
Pro	Ala	Gly	Asp	Glu	Tyr	Glu	Ile	Tyr	Arg	Ile	Ile	Phe	Asp	Ile
4835						4840					4845			
Thr	Phe	Phe	Phe	Phe	Val	Ile	Val	Ile	Leu	Leu	Ala	Ile	Ile	Gln
4850						4855					4860			
Gly	Leu	Ile	Ile	Asp	Ala	Phe	Gly	Glu	Leu	Arg	Asp	Gln	Gln	Glu
4865						4870					4875			
Gln	Val	Lys	Glu	Asp	Met	Glu	Thr	Lys	Cys	Phe	Ile	Cys	Gly	Ile
4880						4885					4890			
Gly	Asn	Asp	Tyr	Phe	Asp	Thr	Val	Pro	His	Gly	Phe	Glu	Thr	His
4895						4900					4905			
Thr	Leu	Gln	Glu	His	Asn	Leu	Ala	Asn	Tyr	Leu	Phe	Phe	Leu	Met
4910						4915					4920			
Tyr	Leu	Ile	Asn	Lys	Asp	Glu	Thr	Glu	His	Thr	Gly	Gln	Glu	Ser
4925						4930					4935			

Tyr Val Trp Lys Met Tyr Gln Glu Arg Cys Trp Glu Phe Phe Pro
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 4955 4960 4965

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 Asp Asp Glu Val Val Leu Gln Cys Thr Ala Thr Ile His Lys Glu Gln
 20 25 30
 Gln Lys Leu Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg Leu Cys Phe
 35 40 45
 Leu Glu Ser Thr Ser Asn Ser Lys Asn Val Pro Pro Asp Leu Ser Ile
 50 55 60
 Cys Thr Phe Val Leu Glu Gln Ser Leu Ser Val Arg Ala Leu Gln Glu
 65 70 75 80
 Met Leu Ala Asn Thr Val Glu Lys Ser Glu Gly Gln Val Asp Val Glu
 85 90 95
 Lys Trp Lys Phe Met Met Lys Thr Ala Gln Gly Gly Gly His Arg Thr
 100 105 110
 Leu Leu Tyr Gly His Ala Ile Leu Leu Arg His Ser Tyr Ser Gly Met
 115 120 125
 Tyr Leu Cys Cys Leu Ser Thr Ser Arg Ser Ser Thr Asp Lys Leu Ala
 130 135 140
 Phe Asp Val Gly Leu Gln Glu Asp Thr Thr Gly Glu Ala Cys Trp Trp
 145 150 155 160
 Thr Ile His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg
 165 170 175
 Val Gly Asp Asp Leu Ile Leu Val Ser Val Ser Ser Glu Arg Tyr Leu
 180 185 190
 His Leu Ser Tyr Gly Asn Gly Ser Leu His Val Asp Ala Ala Phe Gln
 195 200 205
 Gln Thr Leu Trp Ser Val Ala Pro Ile Ser Ser Gly Ser Glu Ala Ala
 210 215 220
 Gln Gly Tyr Leu Ile Gly Gly Asp Val Leu Arg Leu Leu His Gly His
 225 230 235 240
 Met Asp Glu Cys Leu Thr Val Pro Ser Gly Glu His Gly Glu Glu Gln
 245 250 255

Arg	Arg	Thr	Val	His	Tyr	Glu	Gly	Gly	Ala	Val	Ser	Val	His	Ala	Arg	
			260					265					270			
Ser	Leu	Trp	Arg	Leu	Glu	Thr	Leu	Arg	Val	Ala	Trp	Ser	Gly	Ser	His	
		275					280					285				
Ile	Arg	Trp	Gly	Gln	Pro	Phe	Arg	Leu	Arg	His	Val	Thr	Thr	Gly	Lys	
	290					295					300					
Tyr	Leu	Ser	Leu	Met	Glu	Asp	Lys	Asn	Leu	Leu	Leu	Met	Asp	Lys	Glu	
305					310					315					320	
Lys	Ala	Asp	Val	Lys	Ser	Thr	Ala	Phe	Thr	Phe	Arg	Ser	Ser	Lys	Glu	
				325					330					335		
Lys	Leu	Asp	Gly	Gly	Val	Arg	Lys	Glu	Val	Asp	Gly	Met	Gly	Thr	Ser	
			340					345					350			
Glu	Ile	Lys	Tyr	Gly	Asp	Ser	Ile	Cys	Tyr	Ile	Gln	His	Val	Asp	Thr	
		355					360					365				
Gly	Leu	Trp	Leu	Thr	Tyr	Gln	Ser	Val	Asp	Val	Lys	Ser	Val	Arg	Met	
	370					375					380					
Gly	Ser	Ile	Gln	Arg	Lys	Ala	Ile	Met	His	His	Glu	Gly	His	Met	Asp	
385					390					395					400	
Asp	Gly	Leu	Asn	Leu	Ser	Arg	Ser	Gln	His	Glu	Glu	Ser	Arg	Thr	Ala	
			405						410					415		
Arg	Val	Ile	Arg	Ser	Thr	Val	Phe	Leu	Phe	Asn	Arg	Phe	Ile	Arg	Gly	
			420					425					430			
Leu	Asp	Ala	Leu	Ser	Lys	Lys	Ala	Lys	Ala	Ser	Ser	Val	Asp	Leu	Pro	
		435					440					445				
Ile	Glu	Ser	Val	Ser	Leu	Ser	Leu	Gln	Asp	Leu	Ile	Gly	Tyr	Phe	His	
	450					455					460					
Pro	Pro	Asp	Glu	His	Leu	Glu	His	Glu	Asp	Lys	Gln	Asn	Arg	Leu	Arg	
465					470					475					480	
Ala	Leu	Lys	Asn	Arg	Gln	Asn	Leu	Phe	Gln	Glu	Glu	Gly	Met	Ile	Asn	
			485						490					495		
Leu	Val	Leu	Glu	Cys	Ile	Asp	Arg	Leu	His	Val	Tyr	Ser	Ser	Ala	Ala	
			500					505					510			
His	Phe	Ala	Asp	Val	Ala	Gly	Arg	Glu	Ala	Gly	Glu	Ser	Trp	Lys	Ser	
		515					520					525				
Ile	Leu	Asn	Ser	Leu	Tyr	Glu	Leu	Leu	Ala	Ala	Leu	Ile	Arg	Gly	Asn	
	530					535					540					
Arg	Lys	Asn	Cys	Ala	Gln	Phe	Ser	Gly	Ser	Leu	Asp	Trp	Leu	Ile	Ser	
545					550					555					560	
Arg	Leu	Glu	Arg	Leu	Glu	Ala	Ser	Ser	Gly	Ile	Leu	Glu	Val	Leu	His	
				565					570					575		

Cys	Val	Leu	Val	Glu	Ser	Pro	Glu	Ala	Leu	Asn	Ile	Ile	Lys	Glu	Gly	580	585	590
His	Ile	Lys	Ser	Ile	Ile	Ser	Leu	Leu	Asp	Lys	His	Gly	Arg	Asn	His	595	600	605
Lys	Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Cys	His	Gly	Val	Ala	610	615	620
Val	Arg	Ser	Asn	Gln	His	Leu	Ile	Cys	Asp	Asn	Leu	Leu	Pro	Gly	Arg	625	630	635
Asp	Leu	Leu	Leu	Gln	Thr	Arg	Leu	Val	Asn	His	Val	Ser	Ser	Met	Arg	645	650	655
Pro	Asn	Ile	Phe	Leu	Gly	Val	Ser	Glu	Gly	Ser	Ala	Gln	Tyr	Lys	Lys	660	665	670
Trp	Tyr	Tyr	Glu	Leu	Met	Val	Asp	His	Thr	Glu	Pro	Phe	Val	Thr	Ala	675	680	685
Glu	Ala	Thr	His	Leu	Arg	Val	Gly	Trp	Ala	Ser	Thr	Glu	Gly	Tyr	Ser	690	695	700
Pro	Tyr	Pro	Gly	Gly	Gly	Glu	Glu	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	705	710	715
Asp	Leu	Phe	Ser	Tyr	Gly	Phe	Asp	Gly	Leu	His	Leu	Trp	Ser	Gly	Cys	725	730	735
Ile	Ala	Arg	Thr	Val	Ser	Ser	Pro	Asn	Gln	His	Leu	Leu	Arg	Thr	Asp	740	745	750
Asp	Val	Ile	Ser	Cys	Cys	Leu	Asp	Leu	Ser	Ala	Pro	Ser	Ile	Ser	Phe	755	760	765
Arg	Ile	Asn	Gly	Gln	Pro	Val	Gln	Gly	Met	Phe	Glu	Asn	Phe	Asn	Ile	770	775	780
Asp	Gly	Leu	Phe	Phe	Pro	Val	Val	Ser	Phe	Ser	Ala	Gly	Ile	Lys	Val	785	790	795
Arg	Phe	Leu	Leu	Gly	Gly	Arg	His	Gly	Glu	Phe	Lys	Phe	Leu	Pro	Pro	805	810	815
Pro	Gly	Tyr	Ala	Pro	Cys	Tyr	Glu	Ala	Val	Leu	Pro	Lys	Glu	Lys	Leu	820	825	830
Lys	Val	Glu	His	Ser	Arg	Glu	Tyr	Lys	Gln	Glu	Arg	Thr	Tyr	Thr	Arg	835	840	845
Asp	Leu	Leu	Gly	Pro	Thr	Val	Ser	Leu	Thr	Gln	Ala	Ala	Phe	Thr	Pro	850	855	860
Ile	Pro	Val	Asp	Thr	Ser	Gln	Ile	Val	Leu	Pro	Pro	His	Leu	Glu	Arg	865	870	875
Ile	Arg	Glu	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	Leu	Trp	Val	Met	Asn	885	890	895

Lys Ile Glu Leu Gly Trp Gln Tyr Gly Pro Val Arg Asp Asp Asn Lys
 900 905 910
 Arg Gln His Pro Cys Leu Val Glu Phe Ser Lys Leu Pro Glu Gln Glu
 915 920 925
 Arg Asn Tyr Asn Leu Gln Met Ser Leu Glu Thr Leu Lys Thr Leu Leu
 930 935 940
 Ala Leu Gly Cys His Val Gly Ile Ser Asp Glu His Ala Glu Glu Lys
 945 950 955 960
 Val Lys Lys Met Lys Leu Pro Lys Asn Tyr Gln Leu Thr Ser Gly Tyr
 965 970 975
 Lys Pro Ala Pro Met Asp Leu Ser Phe Ile Lys Leu Thr Pro Ser Gln
 980 985 990
 Glu Ala Met Val Asp Lys Leu Ala Glu Asn Ala His Asn Val Trp Ala
 995 1000 1005
 Arg Asp Arg Ile Arg Gln Gly Trp Thr Tyr Gly Ile Gln Gln Asp
 1010 1015 1020
 Val Lys Asn Arg Arg Asn Pro Arg Leu Val Pro Tyr Thr Leu Leu
 1025 1030 1035
 Asp Asp Arg Thr Lys Lys Ser Asn Lys Asp Ser Leu Arg Glu Ala
 1040 1045 1050
 Val Arg Thr Leu Leu Gly Tyr Gly Tyr Asn Leu Glu Ala Pro Asp
 1055 1060 1065
 Gln Asp His Ala Ala Arg Ala Glu Val Cys Ser Gly Thr Gly Glu
 1070 1075 1080
 Arg Phe Arg Ile Phe Arg Ala Glu Lys Thr Tyr Ala Val Lys Ala
 1085 1090 1095
 Gly Arg Trp Tyr Phe Glu Phe Glu Ala Val Thr Ser Gly Asp Met
 1100 1105 1110
 Arg Val Gly Trp Ser Arg Pro Gly Cys Gln Pro Asp Gln Glu Leu
 1115 1120 1125
 Gly Ser Asp Glu Arg Ala Phe Ala Phe Asp Gly Phe Lys Ala Gln
 1130 1135 1140
 Arg Trp His Gln Gly Asn Glu His Tyr Gly Arg Ser Trp Gln Ala
 1145 1150 1155
 Gly Asp Val Val Gly Cys Met Val Asp Met Asn Glu His Thr Met
 1160 1165 1170
 Met Phe Thr Leu Asn Gly Glu Ile Leu Leu Asp Asp Ser Gly Ser
 1175 1180 1185
 Glu Leu Ala Phe Lys Asp Phe Asp Val Gly Asp Gly Phe Ile Pro
 1190 1195 1200

Val	Cys	Ser	Leu	Gly	Val	Ala	Gln	Val	Gly	Arg	Met	Asn	Phe	Gly
1205						1210					1215			
Lys	Asp	Val	Ser	Thr	Leu	Lys	Tyr	Phe	Thr	Ile	Cys	Gly	Leu	Gln
1220						1225					1230			
Glu	Gly	Tyr	Glu	Pro	Phe	Ala	Val	Asn	Thr	Asn	Arg	Asp	Ile	Thr
1235						1240					1245			
Met	Trp	Leu	Ser	Lys	Arg	Leu	Pro	Gln	Phe	Leu	Gln	Val	Pro	Ser
1250						1255					1260			
Asn	His	Glu	His	Ile	Glu	Val	Thr	Arg	Ile	Asp	Gly	Thr	Ile	Asp
1265						1270					1275			
Ser	Ser	Pro	Cys	Leu	Lys	Val	Thr	Gln	Lys	Ser	Phe	Gly	Ser	Gln
1280						1285					1290			
Asn	Ser	Asn	Thr	Asp	Ile	Met	Phe	Tyr	Arg	Leu	Ser	Met	Pro	Ile
1295						1300					1305			
Glu	Cys	Ala	Glu	Val	Phe	Ser	Lys	Thr	Val	Pro	Gly	Gly	Leu	Pro
1310						1315					1320			
Gly	Ala	Gly	Leu	Phe	Gly	Pro	Lys	Asn	Asp	Leu	Glu	Asp	Tyr	Asp
1325						1330					1335			
Ala	Asp	Ser	Asp	Phe	Glu	Val	Leu	Met	Lys	Thr	Ala	His	Gly	His
1340						1345					1350			
Leu	Val	Pro	Asp	Arg	Val	Asp	Lys	Asp	Lys	Glu	Thr	Thr	Lys	Ala
1355						1360					1365			
Glu	Phe	Asn	Asn	His	Lys	Asp	Tyr	Ala	Gln	Glu	Lys	Pro	Ser	Arg
1370						1375					1380			
Leu	Lys	Gln	Arg	Phe	Leu	Leu	Arg	Arg	Thr	Lys	Pro	Asp	Tyr	Ser
1385						1390					1395			
Thr	Ser	His	Ser	Ala	Arg	Leu	Thr	Glu	Asp	Val	Leu	Ala	Asp	Asp
1400						1405					1410			
Arg	Asp	Asp	Tyr	Asp	Phe	Leu	Met	Gln	Thr	Ser	Thr	Tyr	Tyr	Tyr
1415						1420					1425			
Ser	Val	Arg	Ile	Phe	Pro	Gly	Gln	Glu	Pro	Ala	Asn	Val	Trp	Val
1430						1435					1440			
Gly	Trp	Ile	Thr	Ser	Asp	Phe	His	Gln	Tyr	Asp	Thr	Gly	Phe	Asp
1445						1450					1455			
Leu	Asp	Arg	Val	Arg	Thr	Val	Thr	Val	Thr	Leu	Gly	Asp	Glu	Lys
1460						1465					1470			
Gly	Lys	Val	His	Glu	Ser	Ile	Lys	Arg	Ser	Asn	Cys	Tyr	Met	Val
1475						1480					1485			
Cys	Ala	Gly	Glu	Ser	Met	Ser	Pro	Gly	Gln	Gly	Arg	Asn	Asn	Asn
1490						1495					1500			

Gly	Leu	Glu	Ile	Gly	Cys	Val	Val	Asp	Ala	Ala	Ser	Gly	Leu	Leu
	1505					1510					1515			
Thr	Phe	Ile	Ala	Asn	Gly	Lys	Glu	Leu	Ser	Thr	Tyr	Tyr	Gln	Val
	1520					1525					1530			
Glu	Pro	Ser	Thr	Lys	Leu	Phe	Pro	Ala	Val	Phe	Ala	Gln	Ala	Thr
	1535					1540					1545			
Ser	Pro	Asn	Val	Phe	Gln	Phe	Glu	Leu	Gly	Arg	Ile	Lys	Asn	Val
	1550					1555					1560			
Met	Pro	Leu	Ser	Ala	Gly	Leu	Phe	Lys	Ser	Glu	His	Lys	Asn	Pro
	1565					1570					1575			
Val	Pro	Gln	Cys	Pro	Pro	Arg	Leu	His	Val	Gln	Phe	Leu	Ser	His
	1580					1585					1590			
Val	Leu	Trp	Ser	Arg	Met	Pro	Asn	Gln	Phe	Leu	Lys	Val	Asp	Val
	1595					1600					1605			
Ser	Arg	Ile	Ser	Glu	Arg	Gln	Gly	Trp	Leu	Val	Gln	Cys	Leu	Asp
	1610					1615					1620			
Pro	Leu	Gln	Phe	Met	Ser	Leu	His	Ile	Pro	Glu	Glu	Asn	Arg	Ser
	1625					1630					1635			
Val	Asp	Ile	Leu	Glu	Leu	Thr	Glu	Gln	Glu	Glu	Leu	Leu	Lys	Phe
	1640					1645					1650			
His	Tyr	His	Thr	Leu	Arg	Leu	Tyr	Ser	Ala	Val	Cys	Ala	Leu	Gly
	1655					1660					1665			
Asn	His	Arg	Val	Ala	His	Ala	Leu	Cys	Ser	His	Val	Asp	Glu	Pro
	1670					1675					1680			
Gln	Leu	Leu	Tyr	Ala	Ile	Glu	Asn	Lys	Tyr	Met	Pro	Gly	Leu	Leu
	1685					1690					1695			
Arg	Thr	Gly	Tyr	Tyr	Asp	Leu	Leu	Ile	Asp	Ile	His	Leu	Ser	Ser
	1700					1705					1710			
Tyr	Ala	Thr	Ala	Arg	Leu	Met	Met	Asn	Asn	Glu	Phe	Ile	Val	Pro
	1715					1720					1725			
Met	Thr	Glu	Glu	Thr	Lys	Ser	Ile	Thr	Leu	Phe	Pro	Asp	Glu	Asn
	1730					1735					1740			
Lys	Lys	His	Gly	Leu	Pro	Gly	Ile	Gly	Leu	Ser	Thr	Ser	Leu	Arg
	1745					1750					1755			
Pro	Arg	Met	Gln	Phe	Ser	Ser	Pro	Ser	Phe	Val	Ser	Ile	Asn	Asn
	1760					1765					1770			
Glu	Cys	Tyr	Gln	Tyr	Ser	Pro	Glu	Phe	Pro	Leu	Asp	Ile	Leu	Lys
	1775					1780					1785			
Ala	Lys	Thr	Ile	Gln	Met	Leu	Thr	Glu	Ala	Val	Lys	Glu	Gly	Ser
	1790					1795					1800			

Leu	His	Ala	Arg	Asp	Pro	Val	Gly	Gly	Thr	Thr	Glu	Phe	Leu	Phe
1805						1810					1815			
Val	Pro	Leu	Ile	Lys	Leu	Phe	Tyr	Thr	Leu	Leu	Ile	Met	Gly	Ile
1820						1825					1830			
Phe	His	Asn	Glu	Asp	Leu	Arg	His	Ile	Leu	Gln	Leu	Ile	Glu	Pro
1835						1840					1845			
Ser	Val	Phe	Lys	Asp	Ala	Ala	Thr	Pro	Glu	Glu	Glu	Gly	Asp	Thr
1850						1855					1860			
Leu	Glu	Glu	Glu	Pro	Ser	Val	Glu	Asp	Thr	Lys	Leu	Glu	Gly	Ala
1865						1870					1875			
Gly	Glu	Glu	Glu	Ala	Lys	Met	Gly	Lys	Arg	Pro	Lys	Glu	Gly	Leu
1880						1885					1890			
Leu	Gln	Met	Lys	Leu	Pro	Glu	Pro	Val	Lys	Leu	Gln	Met	Cys	Leu
1895						1900					1905			
Leu	Leu	Gln	Tyr	Leu	Cys	Asp	Cys	Gln	Val	Arg	His	Arg	Ile	Glu
1910						1915					1920			
Ala	Ile	Val	Ala	Phe	Ser	Asp	Asp	Phe	Val	Ala	Lys	Leu	Gln	Asp
1925						1930					1935			
Asn	Gln	Arg	Phe	Arg	Tyr	Asn	Glu	Val	Met	Gln	Ala	Leu	Asn	Met
1940						1945					1950			
Ser	Ala	Ala	Leu	Thr	Ala	Arg	Lys	Thr	Lys	Glu	Phe	Arg	Ser	Pro
1955						1960					1965			
Pro	Gln	Glu	Gln	Ile	Asn	Met	Leu	Leu	Asn	Phe	Lys	Asp	Asp	Lys
1970						1975					1980			
Ser	Glu	Cys	Pro	Cys	Pro	Glu	Glu	Ile	Arg	Asp	Gln	Leu	Leu	Asp
1985						1990					1995			
Phe	His	Glu	Asp	Leu	Met	Thr	His	Cys	Gly	Ile	Glu	Leu	Asp	Glu
2000						2005					2010			
Asp	Gly	Ser	Leu	Asp	Gly	Asn	Ser	Asp	Leu	Thr	Ile	Arg	Gly	Arg
2015						2020					2025			
Leu	Leu	Ser	Leu	Val	Glu	Lys	Val	Thr	Tyr	Leu	Lys	Lys	Lys	Gln
2030						2035					2040			
Thr	Glu	Lys	Pro	Val	Glu	Ser	Asp	Ser	Arg	Lys	Ser	Ser	Thr	Leu
2045						2050					2055			
Gln	Gln	Leu	Ile	Ser	Glu	Thr	Met	Val	Arg	Trp	Ala	Gln	Glu	Ser
2060						2065					2070			
Val	Ile	Glu	Asp	Pro	Glu	Leu	Val	Arg	Ala	Met	Phe	Val	Leu	Leu
2075						2080					2085			
His	Arg	Gln	Tyr	Asp	Gly	Ile	Gly	Gly	Leu	Val	Arg	Ala	Leu	Pro
2090						2095					2100			

Lys	Thr	Tyr	Thr	Ile	Asn	Gly	Val	Ser	Val	Glu	Asp	Thr	Ile	Asn
2105						2110					2115			
Leu	Leu	Ala	Ser	Leu	Gly	Gln	Ile	Arg	Ser	Leu	Leu	Ser	Val	Arg
2120						2125					2130			
Met	Gly	Lys	Glu	Glu	Glu	Lys	Leu	Met	Ile	Arg	Gly	Leu	Gly	Asp
2135						2140					2145			
Ile	Met	Asn	Asn	Lys	Val	Phe	Tyr	Gln	His	Pro	Asn	Leu	Met	Arg
2150						2155					2160			
Ala	Leu	Gly	Met	His	Glu	Thr	Val	Met	Glu	Val	Met	Val	Asn	Val
2165						2170					2175			
Leu	Gly	Gly	Gly	Glu	Ser	Lys	Glu	Ile	Thr	Phe	Pro	Lys	Met	Val
2180						2185					2190			
Ala	Asn	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Ile	Ser	Arg
2195						2200					2205			
Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Leu	Ser	Tyr	Leu	Leu	Glu
2210						2215					2220			
Asn	Ser	Ser	Val	Gly	Leu	Ala	Ser	Pro	Ala	Met	Arg	Gly	Ser	Thr
2225						2230					2235			
Pro	Leu	Asp	Val	Ala	Ala	Ala	Ser	Val	Met	Asp	Asn	Asn	Glu	Leu
2240						2245					2250			
Ala	Leu	Ala	Leu	Arg	Glu	Pro	Asp	Leu	Glu	Lys	Val	Val	Arg	Tyr
2255						2260					2265			
Leu	Ala	Gly	Cys	Gly	Leu	Gln	Ser	Cys	Gln	Met	Leu	Val	Ser	Lys
2270						2275					2280			
Gly	Tyr	Pro	Asp	Ile	Gly	Trp	Asn	Pro	Val	Glu	Gly	Glu	Arg	Tyr
2285						2290					2295			
Leu	Asp	Phe	Leu	Arg	Phe	Ala	Val	Phe	Cys	Asn	Gly	Glu	Ser	Val
2300						2305					2310			
Glu	Glu	Asn	Ala	Asn	Val	Val	Val	Arg	Leu	Leu	Ile	Arg	Arg	Pro
2315						2320					2325			
Glu	Cys	Phe	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Gly	Asn	Gly	Leu
2330						2335					2340			
Leu	Ala	Ala	Met	Glu	Glu	Ala	Ile	Lys	Ile	Ala	Glu	Asp	Pro	Ser
2345						2350					2355			
Arg	Asp	Gly	Pro	Ser	Pro	Thr	Ser	Gly	Ser	Ser	Lys	Thr	Leu	Asp
2360						2365					2370			
Thr	Glu	Glu	Glu	Glu	Asp	Asp	Thr	Ile	His	Met	Gly	Asn	Ala	Ile
2375						2380					2385			
Met	Thr	Phe	Tyr	Ala	Ala	Leu	Ile	Asp	Leu	Leu	Gly	Arg	Cys	Ala
2390						2395					2400			

Pro	Glu	Met	His	Leu	Ile	His	Ala	Gly	Lys	Gly	Glu	Ala	Ile	Arg
2405						2410					2415			
Ile	Arg	Ser	Ile	Leu	Arg	Ser	Leu	Ile	Pro	Leu	Gly	Asp	Leu	Val
2420						2425					2430			
Gly	Val	Ile	Ser	Ile	Ala	Phe	Gln	Met	Pro	Thr	Ile	Ala	Lys	Asp
2435						2440					2445			
Gly	Asn	Val	Val	Glu	Pro	Asp	Met	Ser	Ala	Gly	Phe	Cys	Pro	Asp
2450						2455					2460			
His	Lys	Ala	Ala	Met	Val	Leu	Phe	Leu	Asp	Arg	Val	Tyr	Gly	Ile
2465						2470					2475			
Glu	Val	Gln	Asp	Phe	Leu	Leu	His	Leu	Leu	Glu	Val	Gly	Phe	Leu
2480						2485					2490			
Pro	Asp	Leu	Arg	Ala	Ala	Ala	Ser	Leu	Asp	Thr	Ala	Ala	Leu	Ser
2495						2500					2505			
Ala	Thr	Asp	Met	Ala	Leu	Ala	Leu	Asn	Arg	Tyr	Leu	Cys	Thr	Ala
2510						2515					2520			
Val	Leu	Pro	Leu	Leu	Thr	Arg	Cys	Ala	Pro	Leu	Phe	Ala	Gly	Thr
2525						2530					2535			
Glu	His	His	Ala	Ser	Leu	Ile	Asp	Ser	Leu	Leu	His	Thr	Val	Tyr
2540						2545					2550			
Arg	Leu	Ser	Lys	Gly	Cys	Ser	Leu	Thr	Lys	Ala	Gln	Arg	Asp	Ser
2555						2560					2565			
Ile	Glu	Val	Cys	Leu	Leu	Ser	Ile	Cys	Gly	Gln	Leu	Arg	Pro	Ser
2570						2575					2580			
Met	Met	Gln	His	Leu	Leu	Arg	Arg	Leu	Val	Phe	Asp	Val	Pro	Leu
2585						2590					2595			
Leu	Asn	Glu	His	Ala	Lys	Met	Pro	Leu	Lys	Leu	Leu	Thr	Asn	His
2600						2605					2610			
Tyr	Glu	Arg	Cys	Trp	Lys	Tyr	Tyr	Cys	Leu	Pro	Gly	Gly	Trp	Gly
2615						2620					2625			
Asn	Phe	Gly	Ala	Ala	Ser	Glu	Glu	Glu	Leu	His	Leu	Ser	Arg	Lys
2630						2635					2640			
Leu	Phe	Trp	Gly	Ile	Phe	Asp	Ala	Leu	Ser	Gln	Lys	Lys	Tyr	Glu
2645						2650					2655			
Gln	Glu	Leu	Phe	Lys	Leu	Ala	Leu	Pro	Cys	Leu	Ser	Ala	Val	Ala
2660						2665					2670			
Gly	Ala	Leu	Pro	Pro	Asp	Tyr	Met	Glu	Ser	Asn	Tyr	Val	Ser	Met
2675						2680					2685			
Met	Glu	Lys	Gln	Ser	Ser	Met	Asp	Ser	Glu	Gly	Asn	Phe	Asn	Pro
2690						2695					2700			

Gln	Pro	Val	Asp	Thr	Ser	Asn	Ile	Ile	Ile	Pro	Glu	Lys	Leu	Glu
	2705					2710					2715			
Tyr	Phe	Ile	Asn	Lys	Tyr	Ala	Glu	His	Ser	His	Asp	Lys	Trp	Ser
	2720					2725					2730			
Met	Asp	Lys	Leu	Ala	Asn	Gly	Trp	Ile	Tyr	Gly	Glu	Ile	Tyr	Ser
	2735					2740					2745			
Asp	Ser	Ser	Lys	Ile	Gln	Pro	Leu	Met	Lys	Pro	Tyr	Lys	Leu	Leu
	2750					2755					2760			
Ser	Glu	Lys	Glu	Lys	Glu	Ile	Tyr	Arg	Trp	Pro	Ile	Lys	Glu	Ser
	2765					2770					2775			
Leu	Lys	Thr	Met	Leu	Ala	Trp	Gly	Trp	Arg	Ile	Glu	Arg	Thr	Arg
	2780					2785					2790			
Glu	Gly	Asp	Ser	Met	Ala	Leu	Tyr	Asn	Arg	Thr	Arg	Arg	Ile	Ser
	2795					2800					2805			
Gln	Thr	Ser	Gln	Val	Ser	Val	Asp	Ala	Ala	His	Gly	Tyr	Ser	Pro
	2810					2815					2820			
Arg	Ala	Ile	Asp	Met	Ser	Asn	Val	Thr	Leu	Ser	Arg	Asp	Leu	His
	2825					2830					2835			
Ala	Met	Ala	Glu	Met	Met	Ala	Glu	Asn	Tyr	His	Asn	Ile	Trp	Ala
	2840					2845					2850			
Lys	Lys	Lys	Lys	Leu	Glu	Leu	Glu	Ser	Lys	Gly	Gly	Gly	Asn	His
	2855					2860					2865			
Pro	Leu	Leu	Val	Pro	Tyr	Asp	Thr	Leu	Thr	Ala	Lys	Glu	Lys	Ala
	2870					2875					2880			
Lys	Asp	Arg	Glu	Lys	Ala	Gln	Asp	Ile	Leu	Lys	Phe	Leu	Gln	Ile
	2885					2890					2895			
Asn	Gly	Tyr	Ala	Val	Ser	Arg	Gly	Phe	Lys	Asp	Leu	Glu	Leu	Asp
	2900					2905					2910			
Thr	Pro	Ser	Ile	Glu	Lys	Arg	Phe	Ala	Tyr	Ser	Phe	Leu	Gln	Gln
	2915					2920					2925			
Leu	Ile	Arg	Tyr	Val	Asp	Glu	Ala	His	Gln	Tyr	Ile	Leu	Glu	Phe
	2930					2935					2940			
Asp	Gly	Gly	Ser	Arg	Ser	Lys	Gly	Glu	His	Phe	Pro	Tyr	Glu	Gln
	2945					2950					2955			
Glu	Ile	Lys	Phe	Phe	Ala	Lys	Val	Val	Leu	Pro	Leu	Ile	Asp	Gln
	2960					2965					2970			
Tyr	Phe	Lys	Asn	His	Arg	Leu	Tyr	Phe	Leu	Ser	Ala	Ala	Ser	Arg
	2975					2980					2985			
Pro	Leu	Cys	Ser	Gly	Gly	His	Ala	Ser	Asn	Lys	Glu	Lys	Glu	Met
	2990					2995					3000			

Val	Thr	Ser	Leu	Phe	Cys	Lys	Leu	Gly	Val	Leu	Val	Arg	His	Arg
3005						3010					3015			
Ile	Ser	Leu	Phe	Gly	Asn	Asp	Ala	Thr	Ser	Ile	Val	Asn	Cys	Leu
3020						3025					3030			
His	Ile	Leu	Gly	Gln	Thr	Leu	Asp	Ala	Arg	Thr	Val	Met	Lys	Thr
3035						3040					3045			
Gly	Leu	Glu	Ser	Val	Lys	Ser	Ala	Leu	Arg	Ala	Phe	Leu	Asp	Asn
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Ala	Ala	Glu	Asp	Leu	Glu	Lys	Thr	Met	Glu	Asn	Leu	Lys	Gln	Gly
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3080						3085					3090			
Ile	Asn	Tyr	Thr	Thr	Val	Ala	Leu	Leu	Pro	Met	Leu	Ser	Ser	Leu
3095						3100					3105			
Phe	Glu	His	Ile	Gly	Gln	His	Gln	Phe	Gly	Glu	Asp	Leu	Ile	Leu
3110						3115					3120			
Glu	Asp	Val	Gln	Val	Ser	Cys	Tyr	Arg	Ile	Leu	Thr	Ser	Leu	Tyr
3125						3130					3135			
Ala	Leu	Gly	Thr	Ser	Lys	Ser	Ile	Tyr	Val	Glu	Arg	Gln	Arg	Ser
3140						3145					3150			
Ala	Leu	Gly	Glu	Cys	Leu	Ala	Ala	Phe	Ala	Gly	Ala	Phe	Pro	Val
3155						3160					3165			
Ala	Phe	Leu	Glu	Thr	His	Leu	Asn	Lys	His	Asn	Ile	Tyr	Ser	Ile
3170						3175					3180			
Tyr	Asn	Thr	Lys	Ser	Ser	Arg	Glu	Arg	Ala	Ala	Leu	Ser	Leu	Pro
3185						3190					3195			
Ala	Asn	Val	Glu	Asp	Val	Cys	Pro	Asn	Ile	Pro	Ser	Leu	Glu	Lys
3200						3205					3210			
Leu	Met	Glu	Glu	Ile	Val	Glu	Leu	Ala	Glu	Ser	Gly	Ile	Arg	Tyr
3215						3220					3225			
Thr	Gln	Met	Pro	His	Val	Met	Glu	Val	Ile	Leu	Pro	Met	Leu	Cys
3230						3235					3240			
Ser	Tyr	Met	Ser	Arg	Trp	Trp	Glu	His	Gly	Pro	Glu	Ser	Asn	Pro
3245						3250					3255			
Gly	Arg	Ala	Glu	Met	Cys	Cys	Thr	Ala	Leu	Asn	Ser	Glu	His	Met
3260						3265					3270			
Asn	Thr	Leu	Leu	Gly	Asn	Ile	Leu	Lys	Ile	Ile	Tyr	Asn	Asn	Leu
3275						3280					3285			
Gly	Ile	Asp	Glu	Gly	Ala	Trp	Met	Lys	Arg	Leu	Ala	Val	Phe	Ser
3290						3295					3300			

Gln	Pro	Ile	Ile	Asn	Lys	Val	Lys	Pro	Gln	Leu	Leu	Lys	Thr	His
3305						3310					3315			
Phe	Leu	Pro	Leu	Met	Glu	Lys	Leu	Lys	Lys	Lys	Ala	Ala	Met	Val
3320						3325					3330			
Val	Ser	Glu	Glu	Asp	His	Leu	Lys	Ala	Glu	Ala	Arg	Gly	Asp	Met
3335						3340					3345			
Ser	Glu	Ala	Glu	Leu	Leu	Ile	Leu	Asp	Glu	Phe	Thr	Thr	Leu	Ala
3350						3355					3360			
Arg	Asp	Leu	Tyr	Ala	Phe	Tyr	Pro	Leu	Leu	Ile	Arg	Phe	Val	Asp
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Tyr	Asn	Arg	Ala	Lys	Trp	Leu	Lys	Glu	Pro	Thr	Pro	Glu	Ala	Glu
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Glu	Leu	Phe	Arg	Met	Val	Ala	Glu	Val	Phe	Ile	Tyr	Trp	Ser	Lys
3395						3400					3405			
Ser	His	Asn	Phe	Lys	Arg	Glu	Glu	Gln	Asn	Phe	Val	Val	Gln	Asn
3410						3415					3420			
Glu	Ile	Asn	Asn	Met	Ser	Phe	Leu	Ile	Thr	Asp	Thr	Lys	Ser	Lys
3425						3430					3435			
Met	Ser	Lys	Ala	Ala	Val	Ser	Asp	Gln	Glu	Arg	Lys	Lys	Met	Lys
3440						3445					3450			
Arg	Lys	Gly	Asp	Arg	Tyr	Ser	Met	Gln	Thr	Ser	Leu	Ile	Val	Ala
3455						3460					3465			
Ala	Leu	Lys	Arg	Leu	Leu	Pro	Ile	Gly	Leu	Asn	Ile	Cys	Ala	Pro
3470						3475					3480			
Gly	Asp	Gln	Glu	Leu	Ile	Ala	Leu	Ala	Lys	Asn	Arg	Phe	Ser	Leu
3485						3490					3495			
Lys	Asp	Thr	Glu	Asp	Glu	Val	Arg	Asp	Ile	Ile	Arg	Asn	Asn	Ile
3500						3505					3510			
His	Leu	Gln	Gly	Lys	Leu	Glu	Asp	Pro	Ala	Ile	Arg	Trp	Gln	Met
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Ala	Leu	Tyr	Lys	Asp	Leu	Pro	Asn	Arg	Thr	Glu	Glu	Thr	Ser	Asp
3530						3535					3540			
Pro	Glu	Lys	Thr	Val	Glu	Arg	Val	Leu	Asp	Ile	Ala	Asn	Val	Leu
3545						3550					3555			
Phe	His	Leu	Glu	Gln	Lys	Ser	Lys	Phe	Ile	Gly	Arg	Arg	Tyr	Tyr
3560						3565					3570			
Asn	Leu	Val	Glu	His	Pro	Gln	Arg	Ser	Lys	Lys	Ala	Val	Trp	His
3575						3580					3585			
Lys	Leu	Leu	Ser	Lys	Gln	Arg	Lys	Arg	Ala	Val	Val	Ala	Cys	Phe
3590						3595					3600			

Arg	Met	Ala	Pro	Leu	Tyr	Asn	Leu	Pro	Arg	His	Arg	Ala	Val	Asn
	3605					3610					3615			
Leu	Phe	Leu	Gln	Gly	Tyr	Glu	Lys	Ser	Trp	Ile	Glu	Thr	Glu	Glu
	3620					3625					3630			
His	Tyr	Phe	Glu	Asp	Lys	Leu	Ile	Glu	Asp	Leu	Ala	Lys	Pro	Gly
	3635					3640					3645			
Ala	Glu	Pro	Pro	Glu	Glu	Asp	Glu	Val	Thr	Lys	Arg	Val	Asp	Pro
	3650					3655					3660			
Leu	His	Gln	Leu	Ile	Leu	Leu	Phe	Ser	Arg	Thr	Ala	Leu	Thr	Glu
	3665					3670					3675			
Lys	Cys	Lys	Leu	Glu	Glu	Asp	Phe	Leu	Tyr	Met	Ala	Tyr	Ala	Asp
	3680					3685					3690			
Ile	Met	Ala	Lys	Ser	Cys	His	Asp	Glu	Glu	Asp	Asp	Asp	Gly	Glu
	3695					3700					3705			
Glu	Glu	Val	Lys	Ser	Phe	Glu	Glu	Lys	Glu	Met	Glu	Lys	Gln	Lys
	3710					3715					3720			
Leu	Leu	Tyr	Gln	Gln	Ala	Arg	Leu	His	Asp	Arg	Gly	Ala	Ala	Glu
	3725					3730					3735			
Met	Val	Leu	Gln	Thr	Ile	Ser	Ala	Ser	Lys	Gly	Glu	Thr	Gly	Pro
	3740					3745					3750			
Met	Val	Ala	Ala	Thr	Leu	Lys	Leu	Gly	Ile	Ala	Ile	Leu	Asn	Gly
	3755					3760					3765			
Gly	Asn	Ser	Thr	Val	Gln	Gln	Lys	Met	Leu	Asp	Tyr	Leu	Lys	Glu
	3770					3775					3780			
Lys	Lys	Asp	Val	Gly	Phe	Phe	Gln	Ser	Leu	Ala	Gly	Leu	Met	Gln
	3785					3790					3795			
Ser	Cys	Ser	Val	Leu	Asp	Leu	Asn	Ala	Phe	Glu	Arg	Gln	Asn	Lys
	3800					3805					3810			
Ala	Glu	Gly	Leu	Gly	Met	Val	Thr	Glu	Glu	Gly	Ser	Gly	Glu	Lys
	3815					3820					3825			
Val	Leu	Gln	Asp	Asp	Glu	Phe	Thr	Cys	Asp	Leu	Phe	Arg	Phe	Leu
	3830					3835					3840			
Gln	Leu	Leu	Cys	Glu	Gly	His	Asn	Ser	Asp	Phe	Gln	Asn	Tyr	Leu
	3845					3850					3855			
Arg	Thr	Gln	Thr	Gly	Asn	Asn	Thr	Thr	Val	Asn	Ile	Ile	Ile	Ser
	3860					3865					3870			
Thr	Val	Asp	Tyr	Leu	Leu	Arg	Val	Gln	Glu	Ser	Ile	Ser	Asp	Phe
	3875					3880					3885			
Tyr	Trp	Tyr	Tyr	Ser	Gly	Lys	Asp	Val	Ile	Asp	Glu	Gln	Gly	Gln
	3890					3895					3900			

Arg	Asn	Phe	Ser	Lys	Ala	Ile	Gln	Val	Ala	Lys	Gln	Val	Phe	Asn
3905						3910					3915			
Thr	Leu	Thr	Glu	Tyr	Ile	Gln	Gly	Pro	Cys	Thr	Gly	Asn	Gln	Gln
3920						3925					3930			
Ser	Leu	Ala	His	Ser	Arg	Leu	Trp	Asp	Ala	Val	Val	Gly	Phe	Leu
3935						3940					3945			
His	Val	Phe	Ala	His	Met	Gln	Met	Lys	Leu	Ser	Gln	Asp	Ser	Ser
3950						3955					3960			
Gln	Ile	Glu	Leu	Leu	Lys	Glu	Leu	Met	Asp	Leu	Gln	Lys	Asp	Met
3965						3970					3975			
Val	Val	Met	Leu	Leu	Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly
3980						3985					3990			
Thr	Ile	Gly	Lys	Gln	Met	Val	Asp	Met	Leu	Val	Glu	Ser	Ser	Asn
3995						4000					4005			
Asn	Val	Glu	Met	Ile	Leu	Lys	Phe	Phe	Asp	Met	Phe	Leu	Lys	Leu
4010						4015					4020			
Lys	Asp	Leu	Thr	Ser	Ser	Asp	Thr	Phe	Lys	Glu	Tyr	Asp	Pro	Asp
4025						4030					4035			
Gly	Lys	Gly	Ile	Ile	Ser	Lys	Arg	Asp	Phe	His	Lys	Ala	Met	Glu
4040						4045					4050			
Ser	His	Lys	His	Tyr	Thr	Gln	Ser	Glu	Thr	Glu	Phe	Leu	Leu	Ser
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Cys	Ala	Glu	Thr	Asp	Glu	Asn	Glu	Thr	Leu	Asp	Tyr	Glu	Glu	Phe
4070						4075					4080			
Val	Lys	Arg	Phe	His	Glu	Pro	Ala	Lys	Asp	Ile	Gly	Phe	Asn	Val
4085						4090					4095			
Ala	Val	Leu	Leu	Thr	Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Thr
4100						4105					4110			
Arg	Leu	Gln	Thr	Phe	Leu	Glu	Leu	Ala	Glu	Ser	Val	Leu	Asn	Tyr
4115						4120					4125			
Phe	Gln	Pro	Phe	Leu	Gly	Arg	Ile	Glu	Ile	Met	Gly	Ser	Ala	Lys
4130						4135					4140			
Arg	Ile	Glu	Arg	Val	Tyr	Phe	Glu	Ile	Ser	Glu	Ser	Ser	Arg	Thr
4145						4150					4155			
Gln	Trp	Glu	Lys	Pro	Gln	Val	Lys	Glu	Ser	Lys	Arg	Gln	Phe	Ile
4160						4165					4170			
Phe	Asp	Val	Val	Asn	Glu	Gly	Gly	Glu	Lys	Glu	Lys	Met	Glu	Leu
4175						4180					4185			
Phe	Val	Asn	Phe	Cys	Glu	Asp	Thr	Ile	Phe	Glu	Met	Gln	Leu	Ala
4190						4195					4200			

Ala Gln	Ile Ser Glu Ser Asp	Leu Asn Glu Arg Ser	Ala Asn Lys
4205	4210	4215	
Glu Glu	Ser Glu Lys Glu Arg	Pro Glu Glu Gln Gly	Pro Lys Met
4220	4225	4230	
Gly Phe	Phe Ser Val Leu Thr	Val Arg Ser Ala Leu	Phe Ala Leu
4235	4240	4245	
Arg Tyr	Asn Ile Leu Thr Leu	Met Arg Met Leu Ser	Leu Lys Ser
4250	4255	4260	
Leu Lys	Lys Gln Met Lys Lys	Met Lys Lys Met Thr	Val Lys Asp
4265	4270	4275	
Met Val	Thr Ala Phe Phe Ser	Ser Tyr Trp Ser Ile	Phe Met Thr
4280	4285	4290	
Leu Leu	His Phe Val Ala Ser	Val Phe Arg Gly Phe	Phe Arg Ile
4295	4300	4305	
Val Cys	Ser Leu Leu Leu Gly	Gly Ser Leu Val Glu	Gly Ala Lys
4310	4315	4320	
Lys Ile	Lys Val Ala Glu Leu	Leu Ala Asn Met Pro	Asp Pro Thr
4325	4330	4335	
Gln Asp	Glu Val Arg Gly Asp	Gly Glu Glu Gly Glu	Arg Lys Pro
4340	4345	4350	
Met Glu	Thr Thr Leu Pro Ser	Glu Asp Leu Thr Asp	Leu Lys Glu
4355	4360	4365	
Leu Thr	Glu Glu Ser Asp Leu	Leu Ser Asp Ile Phe	Gly Leu Asp
4370	4375	4380	
Leu Lys	Arg Glu Gly Gly Gln	Tyr Lys Leu Ile Pro	His Asn Pro
4385	4390	4395	
Asn Ala	Gly Leu Ser Asp Leu	Met Ser Asn Pro Val	Leu Ile Pro
4400	4405	4410	
Glu Glu	Gln Glu Lys Phe Gln	Glu Gln Lys Thr Lys	Glu Glu Glu
4415	4420	4425	
Lys Glu	Glu Lys Glu Glu Thr	Lys Ser Glu Pro Glu	Lys Ala Glu
4430	4435	4440	
Gly Glu	Asp Gly Glu Lys Glu	Glu Lys Val Lys Glu	Asp Lys Gly
4445	4450	4455	
Lys Gln	Lys Leu Arg Gln Leu	His Thr His Arg Tyr	Gly Glu Pro
4460	4465	4470	
Glu Val	Pro Glu Ser Ala Phe	Trp Lys Lys Ile Ile	Ala Tyr Gln
4475	4480	4485	
Gln Lys	Leu Leu Asn Tyr Phe	Ala Arg Asn Phe Tyr	Asn Met Arg
4490	4495	4500	

Met	Leu	Ala	Leu	Phe	Val	Ala	Phe	Ala	Ile	Asn	Phe	Ile	Leu	Leu
4505						4510					4515			
Phe	Tyr	Lys	Val	Ser	Thr	Ser	Ser	Val	Val	Glu	Gly	Lys	Glu	Leu
4520						4525					4530			
Pro	Ser	Arg	Ser	Thr	Ser	Glu	Asn	Ala	Lys	Val	Thr	Thr	Ser	Leu
4535						4540					4545			
Asp	Ser	Ser	Ser	His	Arg	Ile	Ile	Ala	Val	His	Tyr	Val	Leu	Glu
4550						4555					4560			
Glu	Ser	Ser	Gly	Tyr	Met	Glu	Pro	Thr	Leu	Arg	Ile	Leu	Ala	Ile
4565						4570					4575			
Leu	His	Thr	Val	Ile	Ser	Phe	Phe	Cys	Ile	Ile	Gly	Tyr	Tyr	Cys
4580						4585					4590			
Leu	Lys	Val	Pro	Leu	Val	Ile	Phe	Lys	Arg	Glu	Lys	Glu	Val	Ala
4595						4600					4605			
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4610						4615					4620			
Glu	Asp	Asp	Ile	Lys	Gly	Gln	Trp	Asp	Arg	Leu	Val	Ile	Asn	Thr
4625						4630					4635			
Gln	Ser	Phe	Pro	Asn	Asn	Tyr	Trp	Asp	Lys	Phe	Val	Lys	Arg	Lys
4640						4645					4650			
Val	Met	Asp	Lys	Tyr	Gly	Glu	Phe	Tyr	Gly	Arg	Asp	Arg	Ile	Ser
4655						4660					4665			
Glu	Leu	Leu	Gly	Met	Asp	Lys	Ala	Ala	Leu	Asp	Phe	Ser	Asp	Ala
4670						4675					4680			
Arg	Glu	Lys	Lys	Lys	Pro	Lys	Lys	Asp	Ser	Ser	Leu	Ser	Ala	Val
4685						4690					4695			
Leu	Asn	Ser	Ile	Asp	Val	Lys	Tyr	Gln	Met	Trp	Lys	Leu	Gly	Val
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Val	Phe	Thr	Asp	Asn	Ser	Phe	Leu	Tyr	Leu	Ala	Trp	Tyr	Met	Thr
4715						4720					4725			
Met	Ser	Ile	Leu	Gly	His	Tyr	Asn	Asn	Phe	Phe	Phe	Ala	Ala	His
4730						4735					4740			
Leu	Leu	Asp	Ile	Ala	Met	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile	Leu
4745						4750					4755			
Ser	Ser	Val	Thr	His	Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Gly
4760						4765					4770			
Leu	Leu	Ala	Val	Val	Val	Tyr	Leu	Tyr	Thr	Val	Val	Ala	Phe	Asn
4775						4780					4785			
Phe	Phe	Arg	Lys	Phe	Tyr	Asn	Lys	Ser	Glu	Asp	Gly	Asp	Thr	Pro
4790						4795					4800			

Asp	Met	Lys	Cys	Asp	Asp	Met	Leu	Thr	Cys	Tyr	Met	Phe	His	Met
4805						4810					4815			
Tyr	Val	Gly	Val	Arg	Ala	Gly	Gly	Gly	Ile	Gly	Asp	Glu	Ile	Glu
4820						4825					4830			
Asp	Pro	Ala	Gly	Asp	Glu	Tyr	Glu	Ile	Tyr	Arg	Ile	Ile	Phe	Asp
4835						4840					4845			
Ile	Thr	Phe	Phe	Phe	Phe	Val	Ile	Val	Ile	Leu	Leu	Ala	Ile	Ile
4850						4855					4860			
Gln	Gly	Leu	Ile	Ile	Asp	Ala	Phe	Gly	Glu	Leu	Arg	Asp	Gln	Gln
4865						4870					4875			
Glu	Gln	Val	Lys	Glu	Asp	Met	Glu	Thr	Lys	Cys	Phe	Ile	Cys	Gly
4880						4885					4890			
Ile	Gly	Asn	Asp	Tyr	Phe	Asp	Thr	Val	Pro	His	Gly	Phe	Glu	Thr
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His	Thr	Leu	Gln	Glu	His	Asn	Leu	Ala	Asn	Tyr	Leu	Phe	Phe	Leu
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Met	Tyr	Leu	Ile	Asn	Lys	Asp	Glu	Thr	Glu	His	Thr	Gly	Gln	Glu
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Ser	Tyr	Val	Trp	Lys	Met	Tyr	Gln	Glu	Arg	Cys	Trp	Glu	Phe	Phe
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 <213> Homo sapiens

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 Leu Glu Ser Thr Ser Asn Ser Lys Asn Val Pro Pro Asp Leu Ser Ile
 50 55 60
 Cys Thr Phe Val Leu Glu Gln Ser Leu Ser Val Arg Ala Leu Gln Glu
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 Met Leu Ala Asn Thr Val Glu Lys Ser Glu Gly Gln Val Asp Val Glu
 85 90 95
 Lys Trp Lys Phe Met Met Lys Thr Ala Gln Gly Gly Gly His Arg Thr

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Leu	Leu	Tyr	Gly	His	Ala	Ile	Leu	Leu	Arg	His	Ser	Tyr	Ser	Gly	Met
		115					120					125			
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	130					135					140				
Phe	Asp	Val	Gly	Leu	Gln	Glu	Asp	Thr	Thr	Gly	Glu	Ala	Cys	Trp	Trp
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Thr	Ile	His	Pro	Ala	Ser	Lys	Gln	Arg	Ser	Glu	Gly	Glu	Lys	Val	Arg
				165					170					175	
Val	Gly	Asp	Asp	Leu	Ile	Leu	Val	Ser	Val	Ser	Ser	Glu	Arg	Tyr	Leu
			180					185					190		
His	Leu	Ser	Tyr	Gly	Asn	Gly	Ser	Leu	His	Val	Asp	Ala	Ala	Phe	Gln
		195					200					205			
Gln	Thr	Leu	Trp	Ser	Val	Ala	Pro	Ile	Ser	Ser	Gly	Ser	Glu	Ala	Ala
	210					215					220				
Gln	Gly	Tyr	Leu	Ile	Gly	Gly	Asp	Val	Leu	Arg	Leu	Leu	His	Gly	His
225					230					235					240
Met	Asp	Glu	Cys	Leu	Thr	Val	Pro	Ser	Gly	Glu	His	Gly	Glu	Glu	Gln
				245					250					255	
Arg	Arg	Thr	Val	His	Tyr	Glu	Gly	Gly	Ala	Val	Ser	Val	His	Ala	Arg
			260					265					270		
Ser	Leu	Trp	Arg	Leu	Glu	Thr	Leu	Arg	Val	Ala	Trp	Ser	Gly	Ser	His
		275					280					285			
Ile	Arg	Trp	Gly	Gln	Pro	Phe	Arg	Leu	Arg	His	Val	Thr	Thr	Gly	Lys
	290					295					300				
Tyr	Leu	Ser	Leu	Met	Glu	Asp	Lys	Asn	Leu	Leu	Leu	Met	Asp	Lys	Glu
305					310					315					320
Lys	Ala	Asp	Val	Lys	Ser	Thr	Ala	Phe	Thr	Phe	Arg	Ser	Ser	Lys	Glu
				325					330					335	
Lys	Leu	Asp	Val	Gly	Val	Arg	Lys	Glu	Val	Asp	Gly	Met	Gly	Thr	Ser
			340					345					350		
Glu	Ile	Lys	Tyr	Gly	Asp	Ser	Val	Cys	Tyr	Ile	Gln	His	Val	Asp	Thr
		355					360					365			
Gly	Leu	Trp	Leu	Thr	Tyr	Gln	Ser	Val	Asp	Val	Lys	Ser	Val	Arg	Met
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385					390					395					400
Asp	Gly	Ile	Ser	Leu	Ser	Arg	Ser	Gln	His	Glu	Glu	Ser	Arg	Thr	Ala
				405					410					415	
Arg	Val	Ile	Arg	Ser	Thr	Val	Phe	Leu	Phe	Asn	Arg	Phe	Ile	Arg	Gly

420					425					430					
Leu	Asp	Ala	Leu	Ser	Lys	Lys	Ala	Lys	Ala	Ser	Thr	Val	Asp	Leu	Pro
		435					440					445			
Ile	Glu	Ser	Val	Ser	Leu	Ser	Leu	Gln	Asp	Leu	Ile	Gly	Tyr	Phe	His
	450					455					460				
Pro	Pro	Asp	Glu	His	Leu	Glu	His	Glu	Asp	Lys	Gln	Asn	Arg	Leu	Arg
465					470					475					480
Ala	Leu	Lys	Asn	Arg	Gln	Asn	Leu	Phe	Gln	Glu	Glu	Gly	Met	Ile	Asn
			485						490					495	
Leu	Val	Leu	Glu	Cys	Ile	Asp	Arg	Leu	His	Val	Tyr	Ser	Ser	Ala	Ala
			500					505					510		
His	Phe	Ala	Asp	Val	Ala	Gly	Arg	Glu	Ala	Gly	Glu	Ser	Trp	Lys	Ser
	515						520					525			
Ile	Leu	Asn	Ser	Leu	Tyr	Glu	Leu	Leu	Ala	Ala	Leu	Ile	Arg	Gly	Asn
	530					535					540				
Arg	Lys	Asn	Cys	Ala	Gln	Phe	Ser	Gly	Ser	Leu	Asp	Trp	Leu	Ile	Ser
545					550					555					560
Arg	Leu	Glu	Arg	Leu	Glu	Ala	Ser	Ser	Gly	Ile	Leu	Glu	Val	Leu	His
				565					570					575	
Cys	Val	Leu	Val	Glu	Ser	Pro	Glu	Ala	Leu	Asn	Ile	Ile	Lys	Glu	Gly
			580					585					590		
His	Ile	Lys	Ser	Ile	Ile	Ser	Leu	Leu	Asp	Lys	His	Gly	Arg	Asn	His
	595					600					605				
Lys	Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Cys	His	Gly	Val	Ala
	610					615					620				
Val	Arg	Ser	Asn	Gln	His	Leu	Ile	Cys	Asp	Asn	Leu	Leu	Pro	Gly	Arg
625					630					635					640
Asp	Leu	Leu	Leu	Gln	Thr	Arg	Leu	Val	Asn	His	Val	Ser	Ser	Met	Arg
				645					650					655	
Pro	Asn	Ile	Phe	Leu	Gly	Val	Ser	Glu	Gly	Ser	Ala	Gln	Tyr	Lys	Lys
			660					665					670		
Trp	Tyr	Tyr	Glu	Leu	Met	Val	Asp	His	Thr	Glu	Pro	Phe	Val	Thr	Ala
	675						680					685			
Glu	Ala	Thr	His	Leu	Arg	Val	Gly	Trp	Ala	Ser	Thr	Glu	Gly	Tyr	Ser
	690					695					700				
Pro	Tyr	Pro	Gly	Gly	Gly	Glu	Glu	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp
705					710					715					720
Asp	Leu	Phe	Ser	Tyr	Gly	Phe	Asp	Gly	Leu	His	Leu	Trp	Ser	Gly	Cys
			725					730						735	
Ile	Ala	Arg	Thr	Val	Ser	Ser	Pro	Asn	Gln	His	Leu	Leu	Arg	Thr	Asp

740					745					750						
Asp	Val	Ile	Ser	Cys	Cys	Leu	Asp	Leu	Ser	Ala	Pro	Ser	Ile	Ser	Phe	
755					760					765						
Arg	Ile	Asn	Gly	Gln	Pro	Val	Gln	Gly	Met	Phe	Glu	Asn	Phe	Asn	Ile	
770					775					780						
Asp	Gly	Leu	Phe	Phe	Pro	Val	Val	Ser	Phe	Ser	Ala	Gly	Ile	Lys	Val	
785					790					795					800	
Arg	Phe	Leu	Leu	Gly	Gly	Arg	His	Gly	Glu	Phe	Lys	Phe	Leu	Pro	Pro	
805					810					815						
Pro	Gly	Tyr	Ala	Pro	Cys	Tyr	Glu	Ala	Val	Leu	Pro	Lys	Glu	Lys	Leu	
820					825					830						
Lys	Val	Glu	His	Ser	Arg	Glu	Tyr	Lys	Gln	Glu	Arg	Thr	Tyr	Thr	Arg	
835					840					845						
Asp	Leu	Leu	Gly	Pro	Thr	Val	Ser	Leu	Thr	Gln	Ala	Ala	Phe	Thr	Pro	
850					855					860						
Ile	Pro	Val	Asp	Thr	Ser	Gln	Ile	Val	Leu	Pro	Pro	His	Leu	Glu	Arg	
865					870					875					880	
Ile	Arg	Glu	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	Leu	Trp	Val	Met	Asn	
885					890					895						
Lys	Ile	Glu	Leu	Gly	Trp	Gln	Tyr	Gly	Pro	Val	Arg	Asp	Asp	Asn	Lys	
900					905					910						
Arg	Gln	His	Pro	Cys	Leu	Val	Glu	Phe	Ser	Lys	Leu	Pro	Glu	Gln	Glu	
915					920					925						
Arg	Asn	Tyr	Asn	Leu	Gln	Met	Ser	Leu	Glu	Thr	Leu	Lys	Thr	Leu	Leu	
930					935					940						
Ala	Leu	Gly	Cys	His	Val	Gly	Ile	Ser	Asp	Glu	His	Ala	Glu	Asp	Lys	
945					950					955					960	
Val	Lys	Lys	Met	Lys	Leu	Pro	Lys	Asn	Tyr	Gln	Leu	Thr	Ser	Gly	Tyr	
965					970					975						
Lys	Pro	Ala	Pro	Met	Asp	Leu	Ser	Phe	Ile	Lys	Leu	Thr	Pro	Ser	Gln	
980					985					990						
Glu	Ala	Met	Val	Asp	Lys	Leu	Ala	Glu	Asn	Ala	His	Asn	Val	Trp	Ala	
995					1000					1005						
Arg	Asp	Arg	Ile	Arg	Gln	Gly	Trp	Thr	Tyr	Gly	Ile	Gln	Gln	Asp		
1010					1015					1020						
Val	Lys	Asn	Arg	Arg	Asn	Pro	Arg	Leu	Val	Pro	Tyr	Thr	Pro	Leu		
1025					1030					1035						
Asp	Asp	Arg	Thr	Lys	Lys	Ser	Asn	Lys	Asp	Ser	Leu	Arg	Glu	Ala		
1040					1045					1050						
Val	Arg	Thr	Leu	Leu	Gly	Tyr	Gly	Tyr	Asn	Leu	Glu	Ala	Pro	Asp		

1055					1060					1065				
Gln	Asp	His	Ala	Ala	Arg	Ala	Glu	Val	Cys	Ser	Gly	Thr	Gly	Glu
1070						1075					1080			
Arg	Phe	Arg	Ile	Phe	Arg	Ala	Glu	Lys	Thr	Tyr	Ala	Val	Lys	Ala
1085						1090					1095			
Gly	Arg	Trp	Tyr	Phe	Glu	Phe	Glu	Thr	Val	Thr	Ala	Gly	Asp	Met
1100						1105					1110			
Arg	Val	Gly	Trp	Ser	Arg	Pro	Gly	Cys	Gln	Pro	Asp	Gln	Glu	Leu
1115						1120					1125			
Gly	Ser	Asp	Glu	Arg	Ala	Phe	Ala	Phe	Asp	Gly	Phe	Lys	Ala	Gln
1130						1135					1140			
Arg	Trp	His	Gln	Gly	Asn	Glu	His	Tyr	Gly	Arg	Ser	Trp	Gln	Ala
1145						1150					1155			
Gly	Asp	Val	Val	Gly	Cys	Met	Val	Asp	Met	Asn	Glu	His	Thr	Met
1160						1165					1170			
Met	Phe	Thr	Leu	Asn	Gly	Glu	Ile	Leu	Leu	Asp	Asp	Ser	Gly	Ser
1175						1180					1185			
Glu	Leu	Ala	Phe	Lys	Asp	Phe	Asp	Val	Gly	Asp	Gly	Phe	Ile	Pro
1190						1195					1200			
Val	Cys	Ser	Leu	Gly	Val	Ala	Gln	Val	Gly	Arg	Met	Asn	Phe	Gly
1205						1210					1215			
Lys	Asp	Val	Ser	Thr	Leu	Lys	Tyr	Phe	Thr	Ile	Cys	Gly	Leu	Gln
1220						1225					1230			
Glu	Gly	Tyr	Glu	Pro	Phe	Ala	Val	Asn	Thr	Asn	Arg	Asp	Ile	Thr
1235						1240					1245			
Met	Trp	Leu	Ser	Lys	Arg	Leu	Pro	Gln	Phe	Leu	Gln	Val	Pro	Ser
1250						1255					1260			
Asn	His	Glu	His	Ile	Glu	Val	Thr	Arg	Ile	Asp	Gly	Thr	Ile	Asp
1265						1270					1275			
Ser	Ser	Pro	Cys	Leu	Lys	Val	Thr	Gln	Lys	Ser	Phe	Gly	Ser	Gln
1280						1285					1290			
Asn	Ser	Asn	Thr	Asp	Ile	Met	Phe	Tyr	Arg	Leu	Ser	Met	Pro	Ile
1295						1300					1305			
Glu	Cys	Ala	Glu	Val	Phe	Ser	Lys	Thr	Val	Ala	Gly	Gly	Leu	Pro
1310						1315					1320			
Gly	Ala	Gly	Leu	Phe	Gly	Pro	Lys	Asn	Asp	Leu	Glu	Asp	Tyr	Asp
1325						1330					1335			
Ala	Asp	Ser	Asp	Phe	Glu	Val	Leu	Met	Lys	Thr	Ala	His	Gly	His
1340						1345					1350			
Leu	Val	Pro	Asp	Arg	Val	Asp	Lys	Asp	Lys	Glu	Ala	Thr	Lys	Pro

1355					1360					1365				
Glu	Phe	Asn	Asn	His	Lys	Asp	Tyr	Ala	Gln	Glu	Lys	Pro	Ser	Arg
1370						1375					1380			
Leu	Lys	Gln	Arg	Phe	Leu	Leu	Arg	Arg	Thr	Lys	Pro	Asp	Tyr	Ser
1385						1390					1395			
Thr	Ser	His	Ser	Ala	Arg	Leu	Thr	Glu	Asp	Val	Leu	Ala	Asp	Asp
1400						1405					1410			
Arg	Asp	Asp	Tyr	Asp	Phe	Leu	Met	Gln	Thr	Ser	Thr	Tyr	Tyr	Tyr
1415						1420					1425			
Ser	Val	Arg	Ile	Phe	Pro	Gly	Gln	Glu	Pro	Ala	Asn	Val	Trp	Val
1430						1435					1440			
Gly	Trp	Ile	Thr	Ser	Asp	Phe	His	Gln	Tyr	Asp	Thr	Gly	Phe	Asp
1445						1450					1455			
Leu	Asp	Arg	Val	Arg	Thr	Val	Thr	Val	Thr	Leu	Gly	Asp	Glu	Lys
1460						1465					1470			
Gly	Lys	Val	His	Glu	Ser	Ile	Lys	Arg	Ser	Asn	Cys	Tyr	Met	Val
1475						1480					1485			
Cys	Ala	Gly	Glu	Ser	Met	Ser	Pro	Gly	Gln	Gly	Arg	Asn	Asn	Asn
1490						1495					1500			
Gly	Leu	Glu	Ile	Gly	Cys	Val	Val	Asp	Ala	Ala	Ser	Gly	Leu	Leu
1505						1510					1515			
Thr	Phe	Ile	Ala	Asn	Gly	Lys	Glu	Leu	Ser	Thr	Tyr	Tyr	Gln	Val
1520						1525					1530			
Glu	Pro	Ser	Thr	Lys	Leu	Phe	Pro	Ala	Val	Phe	Ala	Gln	Ala	Thr
1535						1540					1545			
Ser	Pro	Asn	Val	Phe	Gln	Phe	Glu	Leu	Gly	Arg	Ile	Lys	Asn	Val
1550						1555					1560			
Met	Pro	Leu	Ser	Ala	Gly	Leu	Phe	Lys	Ser	Glu	His	Lys	Asn	Pro
1565						1570					1575			
Val	Pro	Gln	Cys	Pro	Pro	Arg	Leu	His	Val	Gln	Phe	Leu	Ser	His
1580						1585					1590			
Val	Leu	Trp	Ser	Arg	Met	Pro	Asn	Gln	Phe	Leu	Lys	Val	Asp	Val
1595						1600					1605			
Ser	Arg	Ile	Ser	Glu	Arg	Gln	Gly	Trp	Leu	Val	Gln	Cys	Leu	Asp
1610						1615					1620			
Pro	Leu	Gln	Phe	Met	Ser	Leu	His	Ile	Pro	Glu	Glu	Asn	Arg	Ser
1625						1630					1635			
Val	Asp	Ile	Leu	Glu	Leu	Thr	Glu	Gln	Glu	Glu	Leu	Leu	Lys	Phe
1640						1645					1650			
His	Tyr	His	Thr	Leu	Arg	Leu	Tyr	Ser	Ala	Val	Cys	Ala	Leu	Gly

1655						1660						1665			
Asn His	Arg Val	Ala His	Ala	Leu Cys	Ser His	Val	Asp Glu	Pro							
1670			1675			1680									
Gln Leu	Leu Tyr	Ala Ile	Glu	Asn Lys	Tyr Met	Pro	Gly Leu	Leu							
1685			1690			1695									
Arg Ala	Gly Tyr	Tyr Asp	Leu	Leu Ile	Asp Ile	His	Leu Ser	Ser							
1700			1705			1710									
Tyr Ala	Thr Ala	Arg Leu	Met	Met Asn	Asn Glu	Tyr	Ile Val	Pro							
1715			1720			1725									
Met Thr	Glu Glu	Thr Lys	Ser	Ile Thr	Leu Phe	Pro	Asp Glu	Asn							
1730			1735			1740									
Lys Lys	His Gly	Leu Pro	Gly	Ile Gly	Leu Ser	Thr	Ser Leu	Arg							
1745			1750			1755									
Pro Arg	Met Gln	Phe Ser	Ser	Pro Ser	Phe Val	Ser	Ile Ser	Asn							
1760			1765			1770									
Glu Cys	Tyr Gln	Tyr Ser	Pro	Glu Phe	Pro Leu	Asp	Ile Leu	Lys							
1775			1780			1785									
Ser Lys	Thr Ile	Gln Met	Leu	Thr Glu	Ala Val	Lys	Glu Gly	Ser							
1790			1795			1800									
Leu His	Ala Arg	Asp Pro	Val	Gly Gly	Thr Thr	Glu	Phe Leu	Phe							
1805			1810			1815									
Val Pro	Leu Ile	Lys Leu	Phe	Tyr Thr	Leu Leu	Ile	Met Gly	Ile							
1820			1825			1830									
Phe His	Asn Glu	Asp Leu	Lys	His Ile	Leu Gln	Leu	Ile Glu	Pro							
1835			1840			1845									
Ser Val	Phe Lys	Glu Ala	Ala	Thr Pro	Glu Glu	Glu	Ser Asp	Thr							
1850			1855			1860									
Leu Glu	Lys Glu	Leu Ser	Val	Asp Asp	Ala Lys	Leu	Gln Gly	Ala							
1865			1870			1875									
Gly Glu	Glu Glu	Ala Lys	Gly	Gly Lys	Arg Pro	Lys	Glu Gly	Leu							
1880			1885			1890									
Leu Gln	Met Lys	Leu Pro	Glu	Pro Val	Lys Leu	Gln	Met Cys	Leu							
1895			1900			1905									
Leu Leu	Gln Tyr	Leu Cys	Asp	Cys Gln	Val Arg	His	Arg Ile	Glu							
1910			1915			1920									
Ala Ile	Val Ala	Phe Ser	Asp	Asp Phe	Val Ala	Lys	Leu Gln	Asp							
1925			1930			1935									
Asn Gln	Arg Phe	Arg Tyr	Asn	Glu Val	Met Gln	Ala	Leu Asn	Met							
1940			1945			1950									
Ser Ala	Ala Leu	Thr Ala	Arg	Lys Thr	Lys Glu	Phe	Arg Ser	Pro							

1955					1960					1965				
Pro	Gln	Glu	Gln	Ile	Asn	Met	Leu	Leu	Asn	Phe	Lys	Asp	Asp	Lys
1970						1975					1980			
Ser	Glu	Cys	Pro	Cys	Pro	Glu	Glu	Ile	Arg	Asp	Gln	Leu	Leu	Asp
1985						1990					1995			
Phe	His	Glu	Asp	Leu	Met	Thr	His	Cys	Gly	Ile	Glu	Leu	Asp	Glu
2000						2005					2010			
Asp	Gly	Ser	Leu	Asp	Gly	Asn	Ser	Asp	Leu	Thr	Ile	Arg	Gly	Arg
2015						2020					2025			
Leu	Leu	Ser	Leu	Val	Glu	Lys	Val	Thr	Tyr	Leu	Lys	Lys	Lys	Gln
2030						2035					2040			
Ala	Glu	Lys	Pro	Val	Glu	Ser	Asp	Ser	Lys	Lys	Ser	Ser	Thr	Leu
2045						2050					2055			
Gln	Gln	Leu	Ile	Ser	Glu	Thr	Met	Val	Arg	Trp	Ala	Gln	Glu	Ser
2060						2065					2070			
Val	Ile	Glu	Asp	Pro	Glu	Leu	Val	Arg	Ala	Met	Phe	Val	Leu	Leu
2075						2080					2085			
His	Arg	Gln	Tyr	Asp	Gly	Ile	Gly	Gly	Leu	Val	Arg	Ala	Leu	Pro
2090						2095					2100			
Lys	Thr	Tyr	Thr	Ile	Asn	Gly	Val	Ser	Val	Glu	Asp	Thr	Ile	Asn
2105						2110					2115			
Leu	Leu	Ala	Ser	Leu	Gly	Gln	Ile	Arg	Ser	Leu	Leu	Ser	Val	Arg
2120						2125					2130			
Met	Gly	Lys	Glu	Glu	Glu	Lys	Leu	Met	Ile	Arg	Gly	Leu	Gly	Asp
2135						2140					2145			
Ile	Met	Asn	Asn	Lys	Val	Phe	Tyr	Gln	His	Pro	Asn	Leu	Met	Arg
2150						2155					2160			
Ala	Leu	Gly	Met	His	Glu	Thr	Val	Met	Glu	Val	Met	Val	Asn	Val
2165						2170					2175			
Leu	Gly	Gly	Gly	Glu	Ser	Lys	Glu	Ile	Thr	Phe	Pro	Lys	Met	Val
2180						2185					2190			
Ala	Asn	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Ile	Ser	Arg
2195						2200					2205			
Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Leu	Ser	Tyr	Leu	Leu	Glu
2210						2215					2220			
Asn	Ser	Ser	Val	Gly	Leu	Ala	Ser	Pro	Ala	Met	Arg	Gly	Ser	Thr
2225						2230					2235			
Pro	Leu	Asp	Val	Ala	Ala	Ala	Ser	Val	Met	Asp	Asn	Asn	Glu	Leu
2240						2245					2250			
Ala	Leu	Ala	Leu	Arg	Glu	Pro	Asp	Leu	Glu	Lys	Val	Val	Arg	Tyr

2255	2260	2265
Leu Ala Gly Cys Gly Leu	Gln Ser Cys Gln Met	Leu Val Ser Lys
2270	2275	2280
Gly Tyr Pro Asp Ile Gly	Trp Asn Pro Val Glu	Gly Glu Arg Tyr
2285	2290	2295
Leu Asp Phe Leu Arg Phe	Ala Val Phe Cys Asn	Gly Glu Ser Val
2300	2305	2310
Glu Glu Asn Ala Asn Val	Val Val Arg Leu Leu	Ile Arg Arg Pro
2315	2320	2325
Glu Cys Phe Gly Pro Ala	Leu Arg Gly Glu Gly	Gly Asn Gly Leu
2330	2335	2340
Leu Ala Ala Met Glu Glu	Ala Ile Lys Ile Ala	Glu Asp Pro Ser
2345	2350	2355
Arg Asp Gly Pro Ser Pro	Asn Ser Gly Ser Ser	Lys Thr Leu Asp
2360	2365	2370
Thr Glu Glu Glu Glu Asp	Asp Thr Ile His Met	Gly Asn Ala Ile
2375	2380	2385
Met Thr Phe Tyr Ser Ala	Leu Ile Asp Leu Leu	Gly Arg Cys Ala
2390	2395	2400
Pro Glu Met His Leu Ile	His Ala Gly Lys Gly	Glu Ala Ile Arg
2405	2410	2415
Ile Arg Ser Ile Leu Arg	Ser Leu Ile Pro Leu	Gly Asp Leu Val
2420	2425	2430
Gly Val Ile Ser Ile Ala	Phe Gln Met Pro Thr	Ile Ala Lys Asp
2435	2440	2445
Gly Asn Val Val Glu Pro	Asp Met Ser Ala Gly	Phe Cys Pro Asp
2450	2455	2460
His Lys Ala Ala Met Val	Leu Phe Leu Asp Arg	Val Tyr Gly Ile
2465	2470	2475
Glu Val Gln Asp Phe Leu	Leu His Leu Leu Glu	Val Gly Phe Leu
2480	2485	2490
Pro Asp Leu Arg Ala Ala	Ala Ser Leu Asp Thr	Ala Ala Leu Ser
2495	2500	2505
Ala Thr Asp Met Ala Leu	Ala Leu Asn Arg Tyr	Leu Cys Thr Ala
2510	2515	2520
Val Leu Pro Leu Leu Thr	Arg Cys Ala Pro Leu	Phe Ala Gly Thr
2525	2530	2535
Glu His His Ala Ser Leu	Ile Asp Ser Leu Leu	His Thr Val Tyr
2540	2545	2550
Arg Leu Ser Lys Gly Cys	Ser Leu Thr Lys Ala	Gln Arg Asp Ser

2555						2560				2565				
Ile	Glu	Val	Cys	Leu	Leu	Ser	Ile	Cys	Gly	Gln	Leu	Arg	Pro	Ser
2570						2575					2580			
Met	Met	Gln	His	Leu	Leu	Arg	Arg	Leu	Val	Phe	Asp	Val	Pro	Leu
2585						2590					2595			
Leu	Asn	Glu	His	Ala	Lys	Met	Pro	Leu	Lys	Leu	Leu	Thr	Asn	His
2600						2605					2610			
Tyr	Glu	Arg	Cys	Trp	Lys	Tyr	Tyr	Cys	Leu	Pro	Gly	Gly	Trp	Gly
2615						2620					2625			
Asn	Phe	Gly	Ala	Ala	Ser	Glu	Glu	Glu	Leu	His	Leu	Ser	Arg	Lys
2630						2635					2640			
Leu	Phe	Trp	Gly	Ile	Phe	Asp	Ala	Leu	Ser	Gln	Lys	Lys	Tyr	Glu
2645						2650					2655			
Gln	Glu	Leu	Phe	Lys	Leu	Ala	Leu	Pro	Cys	Leu	Ser	Ala	Val	Ala
2660						2665					2670			
Gly	Ala	Leu	Pro	Pro	Asp	Tyr	Met	Glu	Ser	Asn	Tyr	Val	Ser	Met
2675						2680					2685			
Met	Glu	Lys	Gln	Ser	Ser	Met	Asp	Ser	Glu	Gly	Asn	Phe	Asn	Pro
2690						2695					2700			
Gln	Pro	Val	Asp	Thr	Ser	Asn	Ile	Thr	Ile	Pro	Glu	Lys	Leu	Glu
2705						2710					2715			
Tyr	Phe	Ile	Asn	Lys	Tyr	Ala	Glu	His	Ser	His	Asp	Lys	Trp	Ser
2720						2725					2730			
Met	Asp	Lys	Leu	Ala	Asn	Gly	Trp	Ile	Tyr	Gly	Glu	Ile	Tyr	Ser
2735						2740					2745			
Asp	Ser	Ser	Lys	Val	Gln	Pro	Leu	Met	Lys	Pro	Tyr	Lys	Leu	Leu
2750						2755					2760			
Ser	Glu	Lys	Glu	Lys	Glu	Ile	Tyr	Arg	Trp	Pro	Ile	Lys	Glu	Ser
2765						2770					2775			
Leu	Lys	Thr	Met	Leu	Ala	Arg	Thr	Met	Arg	Thr	Glu	Arg	Thr	Arg
2780						2785					2790			
Glu	Gly	Asp	Ser	Met	Ala	Leu	Tyr	Asn	Arg	Thr	Arg	Arg	Ile	Ser
2795						2800					2805			
Gln	Thr	Ser	Gln	Val	Ser	Val	Asp	Ala	Ala	His	Gly	Tyr	Ser	Pro
2810						2815					2820			
Arg	Ala	Ile	Asp	Met	Ser	Asn	Val	Thr	Leu	Ser	Arg	Asp	Leu	His
2825						2830					2835			
Ala	Met	Ala	Glu	Met	Met	Ala	Glu	Asn	Tyr	His	Asn	Ile	Trp	Ala
2840						2845					2850			
Lys	Lys	Lys	Lys	Met	Glu	Leu	Glu	Ser	Lys	Gly	Gly	Gly	Asn	His

2855						2860						2865	
Pro	Leu	Leu	Val	Pro	Tyr	Asp	Thr	Leu	Thr	Ala	Lys	Glu	Lys
2870						2875					2880		Ala
Lys	Asp	Arg	Glu	Lys	Ala	Gln	Asp	Ile	Leu	Lys	Phe	Leu	Gln
2885						2890					2895		Ile
Asn	Gly	Tyr	Ala	Val	Ser	Arg	Gly	Phe	Lys	Asp	Leu	Glu	Leu
2900						2905					2910		Asp
Thr	Pro	Ser	Ile	Glu	Lys	Arg	Phe	Ala	Tyr	Ser	Phe	Leu	Gln
2915						2920					2925		Gln
Leu	Ile	Arg	Tyr	Val	Asp	Glu	Ala	His	Gln	Tyr	Ile	Leu	Glu
2930						2935					2940		Phe
Asp	Gly	Gly	Ser	Arg	Gly	Lys	Gly	Glu	His	Phe	Pro	Tyr	Glu
2945						2950					2955		Gln
Glu	Ile	Lys	Phe	Phe	Ala	Lys	Val	Val	Leu	Pro	Leu	Ile	Asp
2960						2965					2970		Gln
Tyr	Phe	Lys	Asn	His	Arg	Leu	Tyr	Phe	Leu	Ser	Ala	Ala	Ser
2975						2980					2985		Arg
Pro	Leu	Cys	Ser	Gly	Gly	His	Ala	Ser	Asn	Lys	Glu	Lys	Glu
2990						2995					3000		Met
Val	Thr	Ser	Leu	Phe	Cys	Lys	Leu	Gly	Val	Leu	Val	Arg	His
3005						3010					3015		Arg
Ile	Ser	Leu	Phe	Gly	Asn	Asp	Ala	Thr	Ser	Ile	Val	Asn	Cys
3020						3025					3030		Leu
His	Ile	Leu	Gly	Gln	Thr	Leu	Asp	Ala	Arg	Thr	Val	Met	Lys
3035						3040					3045		Thr
Gly	Leu	Glu	Ser	Val	Lys	Ser	Ala	Leu	Arg	Ala	Phe	Leu	Asp
3050						3055					3060		Asn
Ala	Ala	Glu	Asp	Leu	Glu	Lys	Thr	Met	Glu	Asn	Leu	Lys	Gln
3065						3070					3075		Gly
Gln	Phe	Thr	His	Thr	Arg	Asn	Gln	Pro	Lys	Gly	Val	Thr	Gln
3080						3085					3090		Ile
Ile	Asn	Tyr	Thr	Thr	Val	Ala	Leu	Leu	Pro	Met	Leu	Ser	Ser
3095						3100					3105		Leu
Phe	Glu	His	Ile	Gly	Gln	His	Gln	Phe	Gly	Glu	Asp	Leu	Ile
3110						3115					3120		Leu
Glu	Asp	Val	Gln	Val	Ser	Cys	Tyr	Arg	Ile	Leu	Thr	Ser	Leu
3125						3130					3135		Tyr
Ala	Leu	Gly	Thr	Ser	Lys	Ser	Ile	Tyr	Val	Glu	Arg	Gln	Arg
3140						3145					3150		Ser
Ala	Leu	Gly	Glu	Cys	Leu	Ala	Ala	Phe	Ala	Gly	Ala	Phe	Pro
												Val	

3155		3160		3165
Ala Phe Leu Glu Thr His	Leu Asp Lys His Asn Ile	Tyr Ser Ile		
3170	3175	3180		
Tyr Asn Thr Lys Ser Ser	Arg Glu Arg Ala Ala Leu	Ser Leu Pro		
3185	3190	3195		
Thr Asn Val Glu Asp Val	Cys Pro Asn Ile Pro Ser	Leu Glu Lys		
3200	3205	3210		
Leu Met Glu Glu Ile Val	Glu Leu Ala Glu Ser Gly	Ile Arg Tyr		
3215	3220	3225		
Thr Gln Met Pro His Val	Met Glu Val Ile Leu Pro	Met Leu Cys		
3230	3235	3240		
Ser Tyr Met Ser Arg Trp	Trp Glu His Gly Pro Glu	Asn Asn Pro		
3245	3250	3255		
Glu Arg Ala Glu Met Cys	Cys Thr Ala Leu Asn Ser	Glu His Met		
3260	3265	3270		
Asn Thr Leu Leu Gly Asn	Ile Leu Lys Ile Ile Tyr	Asn Asn Leu		
3275	3280	3285		
Gly Ile Asp Glu Gly Ala	Trp Met Lys Arg Leu Ala	Val Phe Ser		
3290	3295	3300		
Gln Pro Ile Ile Asn Lys	Val Lys Pro Gln Leu Leu	Lys Thr His		
3305	3310	3315		
Phe Leu Pro Leu Met Glu	Lys Leu Lys Lys Lys Ala	Ala Thr Val		
3320	3325	3330		
Val Ser Glu Glu Asp His	Leu Lys Ala Glu Ala Arg	Gly Asp Met		
3335	3340	3345		
Ser Glu Ala Glu Leu Leu	Ile Leu Asp Glu Phe Thr	Thr Leu Ala		
3350	3355	3360		
Arg Asp Leu Tyr Ala Phe	Tyr Pro Leu Leu Ile Arg	Phe Val Asp		
3365	3370	3375		
Tyr Asn Arg Ala Lys Trp	Leu Lys Glu Pro Asn Pro	Glu Ala Glu		
3380	3385	3390		
Glu Leu Phe Arg Met Val	Ala Glu Val Phe Ile Tyr	Trp Ser Lys		
3395	3400	3405		
Ser His Asn Phe Lys Arg	Glu Glu Gln Asn Phe Val	Val Gln Asn		
3410	3415	3420		
Glu Ile Asn Asn Met Ser	Phe Leu Ile Thr Asp Thr	Lys Ser Lys		
3425	3430	3435		
Met Ser Lys Ala Ala Val	Ser Asp Gln Glu Arg Lys	Lys Met Lys		
3440	3445	3450		
Arg Lys Gly Asp Arg Tyr	Ser Met Gln Thr Ser Leu	Ile Val Ala		

3455		3460		3465
Ala Leu Lys Arg Leu Leu Pro Ile Gly Leu Asn Ile Cys Ala Pro				
3470		3475		3480
Gly Asp Gln Glu Leu Ile Ala Leu Ala Lys Asn Arg Phe Ser Leu				
3485		3490		3495
Lys Asp Thr Glu Asp Glu Val Arg Asp Ile Ile Arg Ser Asn Ile				
3500		3505		3510
His Leu Gln Gly Lys Leu Glu Asp Pro Ala Ile Arg Trp Gln Met				
3515		3520		3525
Ala Leu Tyr Lys Asp Leu Pro Asn Arg Thr Asp Asp Thr Ser Asp				
3530		3535		3540
Pro Glu Lys Thr Val Glu Arg Val Leu Asp Ile Ala Asn Val Leu				
3545		3550		3555
Phe His Leu Glu Gln Lys Ser Lys Arg Val Gly Arg Arg His Tyr				
3560		3565		3570
Cys Leu Val Glu His Pro Gln Arg Ser Lys Lys Ala Val Trp His				
3575		3580		3585
Lys Leu Leu Ser Lys Gln Arg Lys Arg Ala Val Val Ala Cys Phe				
3590		3595		3600
Arg Met Ala Pro Leu Tyr Asn Leu Pro Arg His Arg Ala Val Asn				
3605		3610		3615
Leu Phe Leu Gln Gly Tyr Glu Lys Ser Trp Ile Glu Thr Glu Glu				
3620		3625		3630
His Tyr Phe Glu Asp Lys Leu Ile Glu Asp Leu Ala Lys Pro Gly				
3635		3640		3645
Ala Glu Pro Pro Glu Glu Asp Glu Gly Thr Lys Arg Val Asp Pro				
3650		3655		3660
Leu His Gln Leu Ile Leu Leu Phe Ser Arg Thr Ala Leu Thr Glu				
3665		3670		3675
Lys Cys Lys Leu Glu Glu Asp Phe Leu Tyr Met Ala Tyr Ala Asp				
3680		3685		3690
Ile Met Ala Lys Ser Cys His Asp Glu Glu Asp Asp Asp Gly Glu				
3695		3700		3705
Glu Glu Val Lys Ser Phe Glu Glu Lys Glu Met Glu Lys Gln Lys				
3710		3715		3720
Leu Leu Tyr Gln Gln Ala Arg Leu His Asp Arg Gly Ala Ala Glu				
3725		3730		3735
Met Val Leu Gln Thr Ile Ser Ala Ser Lys Gly Glu Thr Gly Pro				
3740		3745		3750
Met Val Ala Ala Thr Leu Lys Leu Gly Ile Ala Ile Leu Asn Gly				

3755						3760					3765			
Gly Asn Ser Thr Val Gln	Gln	Lys Met Leu Asp Tyr	Leu Lys Glu											
3770					3775					3780				
Lys Lys Asp Val Gly Phe	Phe	Gln Ser Leu Ala Gly	Leu Met Gln											
3785					3790					3795				
Ser Cys Ser Val Leu Asp	Leu	Asn Ala Phe Glu Arg	Gln Asn Lys											
3800					3805					3810				
Ala Glu Gly Leu Gly Met	Val	Thr Glu Glu Gly Ser	Gly Glu Lys											
3815					3820					3825				
Val Leu Gln Asp Asp Glu	Phe	Thr Cys Asp Leu Phe	Arg Phe Leu											
3830					3835					3840				
Gln Leu Leu Cys Glu Gly	His	Asn Ser Asp Phe Gln	Asn Tyr Leu											
3845					3850					3855				
Arg Thr Gln Thr Gly Asn	Asn	Thr Thr Val Asn Ile	Ile Ile Ser											
3860					3865					3870				
Thr Val Asp Tyr Leu Leu	Arg	Val Gln Glu Ser Ile	Ser Asp Phe											
3875					3880					3885				
Tyr Trp Tyr Tyr Ser Gly	Lys	Asp Val Ile Asp Glu	Gln Gly Gln											
3890					3895					3900				
Arg Asn Phe Ser Lys Ala	Ile	Gln Val Ala Lys Gln	Val Phe Asn											
3905					3910					3915				
Thr Leu Thr Glu Tyr Ile	Gln	Gly Pro Cys Thr Gly	Asn Gln Gln											
3920					3925					3930				
Ser Leu Ala His Ser Arg	Leu	Trp Asp Ala Val Val	Gly Phe Leu											
3935					3940					3945				
His Val Phe Ala His Met	Gln	Met Lys Leu Ser Gln	Asp Ser Ser											
3950					3955					3960				
Gln Ile Glu Leu Leu Lys	Glu	Leu Met Asp Leu Gln	Lys Asp Met											
3965					3970					3975				
Val Val Met Leu Leu Ser	Met	Leu Glu Gly Asn Val	Val Asn Gly											
3980					3985					3990				
Thr Ile Gly Lys Gln Met	Val	Asp Met Leu Val Glu	Ser Ser Asn											
3995					4000					4005				
Asn Val Glu Met Ile Leu	Lys	Phe Phe Asp Met Phe	Leu Lys Leu											
4010					4015					4020				
Lys Asp Leu Thr Ser Ser	Asp	Thr Phe Lys Glu Tyr	Asp Pro Asp											
4025					4030					4035				
Gly Lys Gly Val Ile Ser	Lys	Arg Asp Phe His Lys	Ala Met Glu											
4040					4045					4050				
Ser His Lys His Tyr Thr	Gln	Ser Glu Thr Glu Phe	Leu Leu Ser											

4055	4060	4065
Cys Ala Glu Thr Asp Glu Asn 4070	Glu Thr Leu Asp 4075	Tyr Glu Glu Phe 4080
Val Lys Arg Phe His Glu Pro 4085	Ala Lys Asp Ile 4090	Gly Phe Asn Val 4095
Ala Val Leu Leu Thr Asn Leu 4100	Ser Glu His Met 4105	Pro Asn Asp Thr 4110
Arg Leu Gln Thr Phe Leu Glu 4115	Leu Ala Glu Ser 4120	Val Leu Asn Tyr 4125
Phe Gln Pro Phe Leu Gly Arg 4130	Ile Glu Ile Met 4135	Gly Ser Ala Lys 4140
Arg Ile Glu Arg Val Tyr Phe 4145	Glu Ile Ser Glu 4150	Ser Ser Arg Thr 4155
Gln Trp Glu Lys Pro Gln Val 4160	Lys Glu Ser Lys 4165	Arg Gln Phe Ile 4170
Phe Asp Val Val Asn Glu Gly 4175	Gly Glu Lys Glu 4180	Lys Met Glu Leu 4185
Phe Val Asn Phe Cys Glu Asp 4190	Thr Ile Phe Glu 4195	Met Gln Leu Ala 4200
Ala Gln Ile Ser Glu Ser Asp 4205	Leu Asn Glu Arg 4210	Ser Ala Asn Lys 4215
Glu Glu Ser Glu Lys Glu Arg 4220	Pro Glu Glu Gln 4225	Gly Pro Arg Met 4230
Ala Phe Phe Ser Ile Leu Thr 4235	Val Arg Ser Ala 4240	Leu Phe Ala Leu 4245
Arg Tyr Asn Ile Leu Thr Leu 4250	Met Arg Met Leu 4255	Ser Leu Lys Ser 4260
Leu Lys Lys Gln Met Lys Lys 4265	Val Lys Lys Met 4270	Thr Val Lys Asp 4275
Met Val Thr Ala Phe Phe Ser 4280	Ser Tyr Trp Ser 4285	Ile Phe Met Thr 4290
Leu Leu His Phe Val Ala Ser 4295	Val Phe Arg Gly 4300	Phe Phe Arg Ile 4305
Ile Cys Ser Leu Leu Leu Gly 4310	Gly Ser Leu Val 4315	Glu Gly Ala Lys 4320
Lys Ile Lys Val Ala Glu Leu 4325	Leu Ala Asn Met 4330	Pro Asp Pro Thr 4335
Gln Asp Glu Val Arg Gly Asp 4340	Gly Glu Glu Gly 4345	Glu Arg Lys Pro 4350
Leu Glu Ala Ala Leu Pro Ser	Glu Asp Leu Thr Asp	Leu Lys Glu

4355	4360	4365
Leu Thr Glu Glu Ser Asp 4370	Leu Leu Ser Asp Ile 4375	Phe Gly Leu Asp 4380
Leu Lys Arg Glu Gly Gly 4385	Gln Tyr Lys Leu Ile 4390	Pro His Asn Pro 4395
Asn Ala Gly Leu Ser Asp 4400	Leu Met Ser Asn Pro 4405	Val Pro Met Pro 4410
Glu Val Gln Glu Lys Phe 4415	Gln Glu Gln Lys Ala 4420	Lys Glu Glu Glu 4425
Lys Glu Glu Lys Glu Glu 4430	Thr Lys Ser Glu Pro 4435	Glu Lys Ala Glu 4440
Gly Glu Asp Gly Glu Lys 4445	Glu Lys Ala Lys 4450	Glu Asp Lys Gly 4455
Lys Gln Lys Leu Arg Gln 4460	Leu His Thr His Arg 4465	Tyr Gly Glu Pro 4470
Glu Val Pro Glu Ser Ala 4475	Phe Trp Lys Lys Ile 4480	Ile Ala Tyr Gln 4485
Gln Lys Leu Leu Asn Tyr 4490	Phe Ala Arg Asn Phe 4495	Tyr Asn Met Arg 4500
Met Leu Ala Leu Phe Val 4505	Ala Phe Ala Ile Asn 4510	Phe Ile Leu Leu 4515
Phe Tyr Lys Val Ser Thr 4520	Ser Ser Val Val Glu 4525	Gly Lys Glu Leu 4530
Pro Thr Arg Ser Ser Ser 4535	Glu Asn Ala Lys Val 4540	Thr Ser Leu Asp 4545
Ser Ser Ser His Arg Ile 4550	Ile Ala Val His Tyr 4555	Val Leu Glu Glu 4560
Ser Ser Gly Tyr Met Glu 4565	Pro Thr Leu Arg Ile 4570	Leu Ala Ile Leu 4575
His Thr Val Ile Ser Phe 4580	Phe Cys Ile Ile Gly 4585	Tyr Tyr Cys Leu 4590
Lys Val Pro Leu Val Ile 4595	Phe Lys Arg Glu Lys 4600	Glu Val Ala Arg 4605
Lys Leu Glu Phe Asp Gly 4610	Leu Tyr Ile Thr Glu 4615	Gln Pro Ser Glu 4620
Asp Asp Ile Lys Gly Gln 4625	Trp Asp Arg Leu Val 4630	Ile Asn Thr Gln 4635
Ser Phe Pro Asn Asn Tyr 4640	Trp Asp Lys Phe Val 4645	Lys Arg Lys Val 4650
Met Asp Lys Tyr Gly Glu 4655	Phe Tyr Gly Arg Asp 4660	Arg Ile Ser Glu 4665

4655		4660		4665
Leu Leu Gly Met Asp Lys	Ala Ala Leu Asp Phe	Ser Asp Ala Arg		
4670	4675	4680		
Glu Lys Lys Lys Pro Lys	Lys Asp Ser Ser Leu	Ser Ala Val Leu		
4685	4690	4695		
Asn Ser Ile Asp Val Lys	Tyr Gln Met Trp Lys	Leu Gly Val Val		
4700	4705	4710		
Phe Thr Asp Asn Ser Phe	Leu Tyr Leu Ala Trp	Tyr Met Thr Met		
4715	4720	4725		
Ser Val Leu Gly His Tyr	Asn Asn Phe Phe Phe	Ala Ala His Leu		
4730	4735	4740		
Leu Asp Ile Ala Met Gly	Phe Lys Thr Leu Arg	Thr Ile Leu Ser		
4745	4750	4755		
Ser Val Thr His Asn Gly	Lys Gln Leu Val Leu	Thr Val Gly Leu		
4760	4765	4770		
Leu Ala Val Val Val Tyr	Leu Tyr Thr Val Val	Ala Phe Asn Phe		
4775	4780	4785		
Phe Arg Lys Phe Tyr Asn	Lys Ser Glu Asp Gly	Asp Thr Pro Asp		
4790	4795	4800		
Met Lys Cys Asp Asp Met	Leu Thr Cys Tyr Met	Phe His Met Tyr		
4805	4810	4815		
Val Gly Val Arg Ala Gly	Gly Gly Ile Gly Asp	Glu Ile Glu Asp		
4820	4825	4830		
Pro Ala Gly Asp Glu Tyr	Glu Ile Tyr Arg Ile	Ile Phe Asp Ile		
4835	4840	4845		
Thr Phe Phe Phe Phe Val	Ile Val Ile Leu Leu	Ala Ile Ile Gln		
4850	4855	4860		
Gly Leu Ile Ile Asp Ala	Phe Gly Glu Leu Arg	Asp Gln Gln Glu		
4865	4870	4875		
Gln Val Lys Glu Asp Met	Glu Thr Lys Cys Phe	Ile Cys Gly Ile		
4880	4885	4890		
Gly Asn Asp Tyr Phe Asp	Thr Val Pro His Gly	Phe Glu Thr His		
4895	4900	4905		
Thr Leu Gln Glu His Asn	Leu Ala Asn Tyr Leu	Phe Phe Leu Met		
4910	4915	4920		
Tyr Leu Ile Asn Lys Asp	Glu Thr Glu His Thr	Gly Gln Glu Ser		
4925	4930	4935		
Tyr Val Trp Lys Met Tyr	Gln Glu Arg Cys Trp	Glu Phe Phe Pro		
4940	4945	4950		
Ala Gly Asp Cys Phe Arg	Lys Gln Tyr Glu Asp	Gln Leu Asn		

4955

4960

4965

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 Ser Cys Thr Ala Thr Gly Glu Arg Val Cys Leu Ala Ala Glu Gly Xaa
 1 5 10 15
 Gly Asn Arg His Cys Xaa Leu Glu Asn Ile Ala Asp Lys Asn Xaa Pro
 20 25 30
 Pro Asp Leu Ser Xaa Cys Val Phe Val Ile Glu Gln Ala Leu Ser Val
 35 40 45
 Arg Ala Leu Gln Glu Leu Val Thr Ala
 50 55

<210> 64
 <211> 28
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<400> 64
 Arg Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Xaa Asn Ser
 1 5 10 15

Asp Met Tyr Leu Ala Cys Xaa Ser Thr Ser Ser Ser
 20 25

<210> 65
 <211> 48
 <212> PRT
 <213> Artificial Sequence

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<400> 65
 Val Asn Ala Ser Phe His Val Thr His Trp Ser Val Gln Pro Tyr Gly
 1 5 10 15
 Thr Gly Ile Ser Arg Met Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp
 20 25 30
 Val Leu Arg Phe Phe His Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser
 35 40 45

<210> 66
 <211> 30
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 <223> Xaa = any amino acid

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<400> 66
 Gln Ala Arg Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Xaa
 1 5 10 15
 Gly Gly Phe Ile Asn Trp Xaa His Pro Met Arg Ile Arg His
 20 25 30

<210> 67
 <211> 18
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<223> Xaa = any amino acid

<400> 67

Leu Glu Asp Lys Asp Leu Glu Xaa Ile Gly Xaa Pro Ile Ile Lys Tyr
1 5 10 15

Gly Asp

<210> 68

<211> 29

<212> PRT

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<223> Xaa = any amino acid

<400> 68

Tyr Lys Ser Tyr Glu Thr Lys Lys Lys Gly Val Gly Lys Val Glu Glu
1 5 10 15

Lys Gln Ala Xaa Leu His Glu Glu Gly Lys Met Asp Asp
20 25

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<211> 22

<212> PRT

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<223> Xaa = any amino acid

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Ser Arg Ser Gln Glu Glu Glu Ser Xaa Thr Ala Arg Val Ile Arg Lys
1 5 10 15

Cys Ser Ser Leu Phe Thr
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<223> Xaa = any amino acid

<400> 70

Asp Met Glu His Glu Glu Lys Gln Asn Xaa Xaa Arg Ala Leu Arg Asn
1 5 10 15

Arg Gln Asp Leu Phe Gln Glu Glu Gly Xaa Leu Asn Leu Ile Leu Glu
20 25 30

Ala Ile Asp Lys
35

<210> 71

<211> 22

<212> PRT

<213> Artificial Sequence

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<400> 71

Tyr Leu Tyr Gln Leu Leu Ala Ala Ile Ile Lys Gly Asn His Thr Asn
1 5 10 15

Cys Ala Gln Phe Ala Asn
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<210> 72

<211> 65

<212> PRT

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<223> Xaa = any amino acid

<400> 72

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1 5 10 15

Leu Asn Met Met Xaa Asp Glu His Ile Lys Val Ile Ile Ser Leu Leu
20 25 30

Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu Cys Ser Leu
35 40 45

Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn Ile Cys

50

55

60

Asp
65

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<400> 73
Gly Tyr Val Pro Tyr Pro Gly Gly Gly Xaa Lys Trp Gly Gly Asn Gly
1 5 10 15

Val Gly Asp

<210> 74
<211> 19
<212> PRT
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1 5 10 15

Ala Gly Trp

<210> 75
<211> 16
<212> PRT
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<400> 75
Ala Glu Lys Arg Tyr Asp Xaa Gln Leu Ala Val Gln Thr Leu Lys Thr
1 5 10 15

<210> 76
<211> 21
<212> PRT

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<400> 76

Asn Thr His Asn Leu Trp Ala Xaa Glu Arg Ile Gln Gln Gly Trp Thr
1 5 10 15

Tyr Gly Leu Asn Glu
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<210> 77

<211> 26

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<223> Xaa = any amino acid

<400> 77

Arg Ser Pro His Leu Val Pro Tyr Xaa Lys Val Asp Xaa Ala Ile Lys
1 5 10 15

Lys Ala Asn Arg Asp Thr Ala Ser Glu Thr
20 25

<210> 78

<211> 12

<212> PRT

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<223> Xaa = any amino acid

<400> 78

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1 5 10

<210> 79

<211> 15

<212> PRT

<213> Artificial Sequence

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 <223> Xaa = any amino acid

<400> 79
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 1 5 10 15

<210> 80
 <211> 19
 <212> PRT
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<220>
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<400> 80
 Pro Pro Arg Leu Lys Val Gln Cys Leu Xaa Pro His Gln Trp Ala Arg
 1 5 10 15

Val Pro Asn

<210> 81
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 <212> PRT
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<400> 81
 Ala Leu His Ile Pro Glu Glu Asp Arg Xaa Ile Asp Ile Leu Glu Leu
 1 5 10 15

Ile Glu

<210> 82
 <211> 24
 <212> PRT
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<220>
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 <222> (9)..(9)
 <223> Xaa = any amino acid

<400> 82
 Asp Glu His Arg Lys Gly Leu Leu Xaa Met Lys Met Ala Glu Gly Ala
 1 5 10 15

Lys Leu Gln Met Cys Tyr Leu Leu
20

<210> 83
<211> 28
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<223> Xaa = any amino acid

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<222> (17)..(17)
<223> Xaa = any amino acid

<400> 83
Glu Ile Lys Gln Ser Asp Leu Pro Ser Ala Xaa Ala Ala Lys Lys Thr
1 5 10 15

Xaa Glu Phe Arg Cys Pro Pro Arg Glu Gln Met Asn
20 25

<210> 84
<211> 42
<212> PRT
<213> Artificial Sequence

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<223> Xaa = any amino acid

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<222> (23)..(23)
<223> Xaa = any amino acid

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<221> UNSURE
<222> (32)..(32)
<223> Xaa = any amino acid

<400> 84
Gly Leu Ser Gln Ile Arg Xaa Leu Leu Pro Val Gln Met Ser Gln Glu
1 5 10 15

Glu Glu Xaa Leu Met Arg Xaa Arg Leu Trp Lys Leu Val Asn Asn Xaa
20 25 30

Thr Phe Phe Gln His Pro Asp Leu Ile Arg
 35 40

<210> 85
 <211> 35
 <212> PRT
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 <222> (24)..(24)
 <223> Xaa = any amino acid

<220>
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 <222> (26)..(26)
 <223> Xaa = any amino acid

<400> 85
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 1 5 10 15

Leu Cys Tyr Phe Cys Arg Thr Xaa Arg Xaa Asn Gln Lys Ala Met Phe
 20 25 30

Asp His Phe
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<210> 86
 <211> 50
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (37)..(37)
 <223> Xaa = any amino acid

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 1 5 10 15

Leu Met Glu Asn Thr Glu Leu Ala Leu Ala Leu Arg Glu His Tyr Leu
 20 25 30

Glu Lys Ile Ala Xaa Tyr Leu Ser Arg Cys Gly Leu Gln Ser Asn Ser
 35 40 45

Glu Leu
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<210> 87

<211> 59
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 <223> Xaa = any amino acid

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 <222> (46)..(46)
 <223> Xaa = any amino acid

<400> 87
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 Asp Phe Leu Arg Xaa Cys Val Trp Val Asn Gly Glu Ser Val Glu Glu
 20 25 30
 Asn Ala Asn Leu Val Ile Arg Leu Leu Ile Arg Arg Pro Xaa Cys Leu
 35 40 45
 Gly Pro Ala Leu Arg Gly Glu Gly Glu Gly Leu
 50 55

<210> 88
 <211> 24
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (13)..(13)
 <223> Xaa = any amino acid

<400> 88
 Asp Glu Asp Tyr Ile Asp Thr Gly Ala Ala Ile Leu Xaa Phe Tyr Cys
 1 5 10 15
 Thr Leu Val Asp Leu Leu Gly Arg
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<210> 89
 <211> 21
 <212> PRT
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<220>
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<400> 89
 Gly Lys Asn Glu Ser Leu Arg Ala Arg Ala Ile Leu Arg Ser Leu Val
 1 5 10 15
 Pro Leu Glu Asp Leu
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<210> 90
 <211> 35
 <212> PRT
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 <222> (12)..(12)
 <223> Xaa = any amino acid

<400> 90
 Leu Leu Asp Ala Thr Leu His Thr Val Tyr Arg Xaa Ser Lys Asn Arg
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 Met Leu Thr Lys Gly Gln Arg Glu Ala Val Ser Asp Phe Leu Val Ala
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 Leu Thr Ser
 35

<210> 91
 <211> 30
 <212> PRT
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 <222> (11)..(11)
 <223> Xaa = any amino acid

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 <221> UNSURE
 <222> (15)..(15)
 <223> Xaa = any amino acid

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 Met Leu Leu Lys Leu Leu Arg Lys Leu Thr Xaa Asp Val Ser Xaa Leu
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 Ser Glu Tyr Thr Thr Val Ala Leu Arg Leu Leu Thr Leu His
 20 25 30

<210> 92
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 92
 Gly Ala Ser Ser Asp Glu Glu Lys Arg Leu Thr Met
 1 5 10

<210> 93
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
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<222> (12)..(12)
<223> Xaa = any amino acid

<400> 93
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1 5 10 15

Ala Leu Pro Pro Asp Tyr
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<210> 94
<211> 26
<212> PRT
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Gln Leu Val Pro Tyr Asp Leu Leu Thr Asp Lys Glu Lys Xaa Lys Asp
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Arg Glu Arg Ser Gln Glu Phe Leu Lys Tyr
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<210> 95
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<212> PRT
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<220>
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<400> 95
Gly Ala Ala Ser Leu Lys Glu Lys Glu Met Val Ala
1 5 10

<210> 96
<211> 15
<212> PRT
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<220>
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<400> 96
Lys Asn Cys Pro Glu Phe Ile Arg Thr Ser Met Leu Thr Phe Phe
1 5 10 15

<210> 97
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<210> 98
 <211> 17
 <212> PRT
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 <222> (11)..(11)
 <223> Xaa = any amino acid

 <400> 98
 Phe Tyr Pro Leu Leu Ile Lys Tyr Val Asp Xaa Gln Arg Asn His Trp
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 Leu

<210> 99
 <211> 33
 <212> PRT
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 <222> (9)..(9)
 <223> Xaa = any amino acid

 <220>
 <221> UNSURE
 <222> (24)..(24)
 <223> Xaa = any amino acid

 <400> 99
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 1 5 10 15

 Ala Asn Glu Ile Asp Asn Met Xaa Leu Ile Met Pro Thr Ala Thr Arg
 20 25 30

 Arg

<210> 100
 <211> 32
 <212> PRT
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 <220>
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 <223> Xaa = any amino acid

 <400> 100
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 1 5 10 15

 Leu Phe Ala Gly Xaa Glu Gln Glu Leu Val Gln His Cys Lys Asp Arg
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<210> 101
 <211> 12
 <212> PRT
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<220>
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<400> 101
 Asp Glu Met Ser Trp Gln His Tyr Leu Tyr Ser Lys
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<210> 102
 <211> 19
 <212> PRT
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 <222> (7)..(7)
 <223> Xaa = any amino acid

<400> 102
 Tyr Arg Ser Val Val Ser Xaa Gln Arg Lys Arg Ala Val Ile Ala Cys
 1 5 10 15

 Phe Arg Gln

<210> 103
 <211> 22
 <212> PRT
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<220>
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 <222> (16)..(16)
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<400> 103
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 1 5 10 15

Leu Tyr Met Ser Tyr Ala
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<210> 104
 <211> 18
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<220>
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<400> 104
 Ser Ile His Glu Gln Glu Met Glu Lys Gln Lys Leu Leu Phe His Gln
 1 5 10 15

Ala Arg

<210> 105
 <211> 13
 <212> PRT
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<220>
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<400> 105
 Arg Gly Val Ala Glu Met Val Leu Leu His Ile Ser Ala
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<210> 106
 <211> 48
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 <223> Xaa = any amino acid

<220>
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 <222> (21)..(21)
 <223> Xaa = any amino acid

<400> 106
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 1 5 10 15

Phe Phe Thr Ser Xaa Ala Gly Leu Met Asn Ser Cys Ser Val Leu Asp
 20 25 30

Leu Asp Ala Phe Glu Arg Asn Thr Lys Ala Glu Gly Leu Gly Val Gly

35

40

45

<210> 107
 <211> 30
 <212> PRT
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<220>
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 <223> Xaa = any amino acid

<400> 107
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 Leu Phe Arg Phe Ile Gln Leu Thr Cys Glu Gly His Asn Leu
 20 25 30

<210> 108
 <211> 53
 <212> PRT
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<220>
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 <222> (14)..(14)
 <223> Xaa = any amino acid

<220>
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 <222> (40)..(40)
 <223> Xaa = any amino acid

<400> 108
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 1 5 10 15
 Thr Val Asp Tyr Leu Leu Arg Leu Gln Glu Ser Ile Met Asp Phe Tyr
 20 25 30
 Trp His Tyr Ser Ser Lys Glu Xaa Ile Asp Pro Ala Gly Lys Ala Asn
 35 40 45
 Phe Phe Lys Ala Ile
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<210> 109
 <211> 93
 <212> PRT
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<220>
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 <222> (9)..(9)
 <223> Xaa = any amino acid

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<220>
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<222>  (44)..(44)
<223>  Xaa = any amino acid

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<223>  Xaa = any amino acid

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<223>  Xaa = any amino acid

<400>  109
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Phe Leu Phe Leu Phe Ser His Met Gln Asp Lys Leu Ser Lys His Ser
20          25          30

Ser Gln Val Asp Leu Leu Lys Glu Leu Leu Asn Xaa Gln Lys Asp Met
35          40          45

Ile Thr Met Met Leu Ser Met Leu Glu Gly Asn Val Val Asn Gly Thr
50          55          60

Ile Xaa Lys Gln Met Val Asp Thr Leu Val Xaa Ser Ala Ser Asn Val
65          70          75          80

Glu Leu Ile Leu Lys Tyr Phe Asp Met Phe Leu Lys Leu
85          90

<210>  110
<211>  24
<212>  PRT
<213>  Artificial Sequence

<220>
<223>

<400>  110
Lys Glu Ile Gly Phe Asn Leu Ala Val Leu Leu Thr Asn Leu Ser Glu
1          5          10          15

His Met Pro Asn Glu Pro Arg Leu
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<210>  111
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<212>  PRT
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<223>  Xaa = any amino acid

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<400> 111
 Ser Lys Arg Ile Glu Arg Val Tyr Phe Glu Ile Lys Xaa Xaa Asn Ile
 1 5 10 15

Glu Gln Trp

<210> 112
 <211> 34
 <212> PRT
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<220>
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 <222> (17)..(17)
 <223> Xaa = any amino acid

<400> 112
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Xaa Glu Lys Leu Glu Ala Phe Val Asn Phe Cys Glu Asp Ala Ile Phe
 20 25 30

Glu Met

<210> 113
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 113
 Leu Ala Arg Asn Phe Tyr Asn Leu Lys Tyr Val Ala Leu Val Leu Ala
 1 5 10 15

Phe

<210> 114
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 114
 Tyr Tyr His Leu Lys Val Pro Leu Ala Ile Phe Lys Arg Glu Lys Glu
 1 5 10 15

Ile Ala Arg

<210> 115
 <211> 50
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 <223> Xaa = any amino acid

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 <223> Xaa = any amino acid

<220>
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 <222> (37)..(37)
 <223> Xaa = any amino acid

<400> 115
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 1 5 10 15
 Ile Ser Ala Lys Xaa Phe Pro Val Asn Tyr Trp Asp Lys Phe Xaa Lys
 20 25 30
 Lys Lys Val Arg Xaa Lys Tyr Ser Glu Thr Tyr Asp Phe Asp Ser Ile
 35 40 45
 Ser Asn
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<210> 116
 <211> 57
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> UNSURE
 <222> (36)..(36)
 <223> Xaa = any amino acid

<400> 116
 Phe Phe Phe Ala Ala His Leu Leu Asp Val Ala Val Gly Phe Lys Thr
 1 5 10 15
 Leu Arg Thr Ile Leu Gln Ser Val Thr His Asn Gly Lys Gln Leu Val
 20 25 30
 Leu Thr Val Xaa Leu Leu Thr Ile Ile Val Tyr Ile Tyr Thr Val Ile
 35 40 45

Ala Phe Asn Phe Phe Arg Lys Phe Tyr
 50 55

<210> 117
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
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 <222> (11)..(11)
 <223> Xaa = any amino acid

<400> 117
 Cys His Asp Met Leu Thr Cys Phe Val Phe Xaa Leu Tyr Lys Gly Val
 1 5 10 15

Arg Ala Gly Gly Gly Ile Gly Asp Glu
 20 25

<210> 118
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223>

<400> 118
 Ile Leu Leu Ala Ile Ile Gln Gly Leu Ile Ile Asp Ala Phe Gly Glu
 1 5 10 15

Leu Arg Asp Gln Leu Glu Ser Val Lys
 20 25

<210> 119
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223>

<400> 119
 Glu His Asn Leu Ala Asn Tyr Met Phe Phe Leu Met His Leu Ile Asn
 1 5 10 15

Lys Pro Asp Thr Glu Tyr Thr Gly Gln Glu Thr Tyr Val Trp Asn Met
 20 25 30

Tyr

<210> 120
 <211> 5127

<212> PRT
 <213> Drosophila melanogaster

<220>
 <223> gi 17352465

<400> 120
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 20 25 30
 Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu
 35 40 45
 Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60
 Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80
 Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95
 Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110
 Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
 115 120 125
 Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
 130 135 140
 Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
 145 150 155 160
 Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
 165 170 175
 Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
 180 185 190
 Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
 195 200 205
 Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
 210 215 220
 Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Gly Arg Glu Ala Gly
 225 230 235 240
 Gln Asn Ile Val Ile Tyr Glu Gly Gly Val Val Met Ala Gln Ala Arg
 245 250 255
 Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Thr Gly Gly Phe
 260 265 270
 Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Ile Thr Thr Gly Arg
 275 280 285

Tyr Leu Gly Val Asn Asp Ser Asn Glu Leu Ile Leu Val Lys Lys Glu
290 295 300
Glu Ala Ser Ile Ala Thr Thr Thr Phe Cys Leu Arg Gln Glu Lys Asp
305 310 315 320
Asp Glu Lys Lys Val Leu Glu Asp Lys Asp Leu Glu Val Ile Gly Ser
325 330 335
Pro Ile Ile Lys Tyr Gly Asp Thr Thr Val Ile Val Gln His Cys Glu
340 345 350
Thr Ser Leu Trp Leu Ser Tyr Lys Ser Tyr Glu Thr Lys Lys Lys Gly
355 360 365
Val Gly Lys Val Glu Glu Lys Gln Ala Ile Leu His Glu Glu Gly Lys
370 375 380
Met Asp Asp Cys Leu Asp Phe Ser Arg Ser Gln Glu Glu Glu Ser Lys
385 390 395 400
Thr Ala Arg Val Ile Arg Lys Cys Ser Ser Leu Phe Thr Gln Phe Ile
405 410 415
Thr Ala Leu Glu Thr Leu Gln Ser Asn Arg Arg His Ser Ile Phe Phe
420 425 430
Gln Lys Val Asn Leu Asn Glu Met Val Met Cys Leu Glu Asp Leu Ile
435 440 445
Asn Tyr Phe Ser Gln Pro Glu Asp Asp Met Glu His Glu Glu Lys Gln
450 455 460
Asn Arg Phe Arg Ala Leu Arg Asn Arg Gln Asp Leu Phe Gln Glu Glu
465 470 475 480
Gly Val Leu Asn Leu Ile Leu Glu Ala Ile Asp Lys Ile Asn Ile Ile
485 490 495
Thr Ser Gln Gly Phe Leu Ala Ser Phe Leu Ala Gly Asp Glu Thr Gly
500 505 510
Gln Ser Trp Asp Leu Ile Ser Thr Tyr Leu Tyr Gln Leu Leu Ala Ala
515 520 525
Ile Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser Asn
530 535 540
Arg Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala Ser Ser Glu
545 550 555 560
Gly Ser Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser Pro
565 570 575
Glu Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile Ser
580 585 590
Leu Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu Cys
595 600 605

Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn
 610 615 620
 Ile Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr Leu
 625 630 635 640
 Leu Val Asp His Val Ala Ser Ile Arg Pro Asn Ile Phe Val Gly Arg
 645 650 655
 Val Asp Gly Ser Ser Met Tyr Gln Lys Trp Tyr Phe Glu Val Thr Met
 660 665 670
 Asp His Ile Glu Gln Thr Thr His Met Met Pro His Leu Arg Ile Gly
 675 680 685
 Trp Ala Asn Thr Ser Gly Tyr Val Pro Tyr Pro Gly Gly Gly Lys Lys
 690 695 700
 Trp Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Phe Gly Phe Asp
 705 710 715 720
 Gly Ala Phe Leu Trp Thr Gly Gly Arg Lys Thr Leu Val Val Asp Ala
 725 730 735
 Leu Pro Glu Glu Pro Phe Ile Arg Lys Gly Asp Val Ile Gly Val Ala
 740 745 750
 Ile Asp Leu Ser Val Pro Ile Ile Thr Phe Thr Phe Asn Gly Val Lys
 755 760 765
 Val Arg Gly Ser Phe Arg Asp Phe Asn Leu Asp Gly Met Phe Phe Pro
 770 775 780
 Val Met Ser Cys Ser Ser Lys Leu Ser Cys Arg Phe Leu Phe Gly Gly
 785 790 795 800
 Asp His Gly Arg Leu Lys Phe Ala Pro Pro Met Gly Phe Ser Ala Leu
 805 810 815
 Val Gln Cys Leu Met Pro Gln Gln Ile Leu Ser Leu Asp Pro Cys Phe
 820 825 830
 Tyr Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile
 835 840 845
 Glu Asp Asp Thr Ala Phe Val Pro Lys Pro Val Asp Thr Thr Gly Val
 850 855 860
 Thr Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn
 865 870 875 880
 Ile His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp
 885 890 895
 Gly Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His
 900 905 910
 Phe Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala
 915 920 925

Val Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met
 930 935 940
 Asp Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile
 945 950 955 960
 Phe Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala
 965 970 975
 Val Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu
 980 985 990
 Asn Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp Thr
 995 1000 1005
 Tyr Gly Leu Asn Glu Asp Ser Glu Asn His Arg Ser Pro His Leu
 1010 1015 1020
 Val Pro Tyr Ala Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg
 1025 1030 1035
 Asp Thr Ala Ser Glu Thr Val Arg Thr Leu Leu Val Tyr Gly Tyr
 1040 1045 1050
 Val Leu Asp Pro Pro Thr Gly Glu Gly Thr Glu Ala Leu Leu Ala
 1055 1060 1065
 Glu Ala Gln Arg Leu Lys Phe Ala Gly Phe Arg Thr Tyr Arg Val
 1070 1075 1080
 Glu Arg Asn Tyr Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe
 1085 1090 1095
 Glu Val Leu Thr Ser Gly Pro Met Arg Val Gly Trp Ala Arg Ala
 1100 1105 1110
 Asp Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp
 1115 1120 1125
 Ala Phe Asp Gly His Asn Val Thr Lys Met His Ala Gly Ser Ile
 1130 1135 1140
 Glu His Phe Gly Val Arg Tyr Glu Ala Gly Asp Val Ile Gly Cys
 1145 1150 1155
 Phe Ile Asp Val Lys Glu Gln Thr Ile Ser Phe Ser Leu Asn Gly
 1160 1165 1170
 Glu Leu Leu Met Asp Ala Leu Gly Gly Glu Thr Thr Phe Ala Asp
 1175 1180 1185
 Val Thr Ala Glu Gly Val Gly Phe Val Pro Ala Cys Thr Leu Gly
 1190 1195 1200
 Val Gly Gln Lys Ala Arg Leu Ile Tyr Gly Gln Asp Val Asp Ser
 1205 1210 1215
 Leu Lys Phe Phe Thr Thr Cys Gly Leu Gln Glu Gly Tyr Glu Pro
 1220 1225 1230

Phe	Cys	Val	Asn	Met	Arg	Arg	Pro	Val	Thr	His	Trp	Tyr	Thr	Lys
1235						1240					1245			
Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Glu	Met	Pro	Asp	Cys	Arg
1250						1255					1260			
Ile	Asp	Val	Thr	Arg	Ile	Pro	Gly	Gly	Ala	Asp	Thr	Pro	Pro	His
1265						1270					1275			
Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn
1280						1285					1290			
Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Thr	Cys	Met	Gly	Glu
1295						1300					1305			
Phe	Ile	Ser	Glu	Gln	Glu	Lys	Ala	Arg	Arg	Trp	Asp	Glu	Ile	Lys
1310						1315					1320			
Asn	Arg	Gln	Tyr	Arg	Leu	Met	Arg	Glu	Ala	Glu	Ile	Ala	Ala	Gln
1325						1330					1335			
Met	Gln	Val	Gln	Thr	Gln	Ala	Ala	His	Met	Asp	His	Met	Leu	Lys
1340						1345					1350			
Gly	Gly	Phe	Asn	Met	Asn	Asp	Ile	Lys	Gly	Leu	Thr	Arg	Asn	Phe
1355						1360					1365			
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1370						1375					1380			
Asn	Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Thr	Arg	Asn	Ile	Thr	Phe
1385						1390					1395			
Glu	Thr	Asp	Met	Ser	Ala	Ala	Leu	Asp	Glu	Met	Gln	Arg	Ser	Thr
1400						1405					1410			
Ser	Val	Leu	Asp	Met	Asn	Gly	Leu	Gly	Glu	Glu	Met	Asp	Asp	Lys
1415						1420					1425			
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1430						1435					1440			
Arg	Asp	Gln	Ser	Arg	Glu	Lys	Met	Gly	Ala	Arg	Thr	Leu	Asp	Thr
1445						1450					1455			
Ser	Leu	Glu	Arg	Arg	Asn	Thr	Val	Ala	His	Gly	Arg	Asn	Val	Val
1460						1465					1470			
Asn	Gln	Gln	Met	Thr	Thr	Arg	Ala	Pro	Thr	Leu	Arg	Leu	Asn	Asn
1475						1480					1485			
Ala	Glu	Ile	Pro	Pro	Ser	Pro	Val	Pro	Gln	Gly	Pro	Lys	Gln	Leu
1490						1495					1500			
Ser	Gly	Ser	Asn	Leu	Gly	Gln	Gln	Pro	Val	Glu	Thr	Ser	Gly	Asp
1505						1510					1515			
Glu	Met	Phe	Asp	Ala	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu	Tyr	Phe
1520						1525					1530			

Tyr	Gly	Val	Arg	Ile	Phe	Pro	Gly	Gln	Asp	Pro	Thr	His	Val	Tyr
1535						1540					1545			
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1550						1555					1560			
Asn	Lys	Asn	Lys	Val	Arg	Arg	Gly	Ser	Val	Tyr	Ile	Glu	Asp	Asp
1565						1570					1575			
Tyr	Glu	Met	Ala	Ile	Glu	Arg	Ile	Asp	Arg	Gln	Ser	Cys	Tyr	Val
1580						1585					1590			
Val	Arg	Ala	Asp	Glu	Leu	Phe	Asn	Glu	Val	Thr	Gln	Asp	Ala	Ser
1595						1600					1605			
Gly	Lys	Gly	Ala	Ser	Gln	Gly	Met	Phe	Val	Gly	Cys	Phe	Val	Asp
1610						1615					1620			
Thr	Ala	Thr	Gly	Ile	Ile	Arg	Phe	Thr	Cys	Glu	Gly	Lys	Asp	Thr
1625						1630					1635			
Ser	His	Arg	Trp	Met	Met	Glu	Pro	Asp	Thr	Lys	Leu	Phe	Pro	Ala
1640						1645					1650			
Ile	Phe	Val	Glu	Ala	Thr	Ser	Lys	Glu	Ile	Leu	Gln	Ile	Glu	Leu
1655						1660					1665			
Gly	Arg	Thr	Pro	Thr	Thr	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro
1670						1675					1680			
Thr	Ser	Asp	Lys	His	Ile	Asn	Pro	Gln	Ser	Pro	Pro	Arg	Leu	Lys
1685						1690					1695			
Val	Gln	Cys	Leu	Arg	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Thr
1700						1705					1710			
Ala	Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp	Val	Arg	Gly	Trp
1715						1720					1725			
Ser	Met	Leu	Cys	Glu	Asp	Pro	Val	Ser	Met	Leu	Ala	Leu	His	Ile
1730						1735					1740			
Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met
1745						1750					1755			
Asp	Lys	Leu	Leu	Ser	Phe	His	Ala	His	Ser	Leu	Thr	Leu	Tyr	Ala
1760						1765					1770			
Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys
1775						1780					1785			
Gln	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Arg	Ser	Glu
1790						1795					1800			
Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile
1805						1810					1815			
Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys
1820						1825					1830			

Asn	Glu	Tyr	Ile	Thr	Pro	Leu	Gly	Ala	Glu	Leu	Lys	Glu	Leu	Tyr
1835						1840					1845			
Ser	Asp	Glu	Glu	Met	Gln	His	Ser	Leu	Arg	Ser	Leu	Val	Thr	Glu
1850						1855					1860			
Ser	Val	Arg	Pro	Gln	Leu	Arg	Met	Thr	Glu	Ile	Thr	Pro	Pro	Val
1865						1870					1875			
Ile	Ala	Thr	Ser	Ser	Met	Pro	Ser	Val	Ser	Ser	Glu	Pro	Ile	Pro
1880						1885					1890			
Asp	Ile	Asp	Gln	Leu	Tyr	Ser	Pro	Lys	Phe	Pro	Leu	Glu	Val	Val
1895						1900					1905			
Arg	Gln	Phe	Val	Met	Glu	Ala	Leu	Lys	Asp	Ala	Val	Glu	Ile	Asn
1910						1915					1920			
Gln	Val	His	Asn	Arg	Asp	Pro	Ile	Gly	Trp	Thr	Asn	Glu	Asn	Leu
1925						1930					1935			
Phe	Leu	Pro	Leu	Ile	Lys	Leu	Thr	Asp	Arg	Leu	Leu	Leu	Val	Gly
1940						1945					1950			
Val	Leu	Thr	Asp	Glu	Asp	Val	Gln	Arg	Leu	Leu	Val	Met	Ile	Asp
1955						1960					1965			
Pro	Glu	Thr	Trp	Asp	Gln	Ala	Phe	Glu	Arg	Glu	Gly	Lys	Asp	Glu
1970						1975					1980			
His	Arg	Lys	Gly	Leu	Leu	Thr	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys
1985						1990					1995			
Leu	Gln	Met	Cys	Tyr	Leu	Leu	His	His	Leu	Tyr	Asp	Thr	Gln	Leu
2000						2005					2010			
Arg	His	Arg	Val	Glu	Ser	Ile	Ile	Ala	Phe	Ser	His	Asp	Phe	Val
2015						2020					2025			
Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Ile	Glu	Ile	Lys
2030						2035					2040			
Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Lys	Glu
2045						2050					2055			
Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Gln	Ile	Leu	Cys	Phe
2060						2065					2070			
Lys	Asn	Leu	Glu	Pro	Asp	Asp	Gln	Asp	Asn	Cys	Thr	Cys	Gly	Leu
2075						2080					2085			
Glu	Leu	Arg	Gly	Arg	Leu	Gly	Asp	Phe	His	Asp	Ser	Leu	Met	Gln
2090						2095					2100			
Lys	Val	Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Asp	Gly	Val	Glu	Gly
2105						2110					2115			
Thr	Ala	Ile	Glu	Glu	Val	Lys	Thr	Gly	Pro	Ile	Thr	Lys	Ile	Tyr
2120						2125					2130			

Asn	Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu
2135						2140					2145			
Val	Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys
2150						2155					2160			
Val	Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile
2165						2170					2175			
Glu	Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg
2180						2185					2190			
Gln	Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr
2195						2200					2205			
Tyr	Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp
2210						2215					2220			
Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser
2225						2230					2235			
Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val
2240						2245					2250			
Asn	Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu
2255						2260					2265			
Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly
2270						2275					2280			
Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val
2285						2290					2295			
Ala	Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met
2300						2305					2310			
Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly
2315						2320					2325			
Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu
2330						2335					2340			
Asp	Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser
2345						2350					2355			
Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu
2360						2365					2370			
Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val
2375						2380					2385			
Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu
2390						2395					2400			
Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg
2405						2410					2415			
Tyr	Leu	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser
2420						2425					2430			

Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg
2435						2440					2445			
Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu
2450						2455					2460			
Phe	Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile	Ser
2465						2470					2475			
Asp	Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala	Gly
2480						2485					2490			
Leu	Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu	Asp
2495						2500					2505			
Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu
2510						2515					2520			
Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile	Glu
2525						2530					2535			
Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser
2540						2545					2550			
Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe
2555						2560					2565			
Thr	Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser	Asp
2570						2575					2580			
Met	Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val	Leu
2585						2590					2595			
Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe	Tyr
2600						2605					2610			
Arg	Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr
2615						2620					2625			
Ile	Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ala
2630						2635					2640			
Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys
2645						2650					2655			
His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu
2660						2665					2670			
Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met
2675						2680					2685			
Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala
2690						2695					2700			
Leu	Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg
2705						2710					2715			
Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val
2720						2725					2730			

Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys	Tyr
2735						2740					2745			
Tyr	Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser	Asp
2750						2755					2760			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2765						2770					2775			
Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2780						2785					2790			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2795						2800					2805			
Ser	Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln	Met
2810						2815					2820			
Gly	Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp	Thr
2825						2830					2835			
Asn	Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln	Lys
2840						2845					2850			
Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu	Glu
2855						2860					2865			
Gly	Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg	Lys
2870						2875					2880			
His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu	Arg
2885						2890					2895			
Glu	Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu	Leu
2900						2905					2910			
Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Ala	Leu
2915						2920					2925			
Asn	His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile	Asn
2930						2935					2940			
Glu	Phe	Gln	Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro
2945						2950					2955			
Val	Asp	Met	Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met
2960						2965					2970			
Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys
2975						2980					2985			
Lys	Asn	Glu	Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln
2990						2995					3000			
Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp
3005						3010					3015			
Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Met	Gln	Tyr	Gln	Gly
3020						3025					3030			

Tyr	Lys	Leu	His	Lys	Pro	Ser	Lys	Gly	Gly	Ala	Val	Glu	Glu	Gly
3035						3040					3045			
Gly	Ala	Thr	Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu
3050						3055					3060			
Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met
3065						3070					3075			
Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe
3080						3085					3090			
Lys	Thr	Ala	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu
3095						3100					3105			
Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile
3110						3115					3120			
Ala	Ile	Ala	Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys
3125						3130					3135			
Glu	Lys	Glu	Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu
3140						3145					3150			
Leu	Arg	Asn	Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr
3155						3160					3165			
Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr
3170						3175					3180			
Leu	Thr	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr
3185						3190					3195			
Phe	Phe	Asn	Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn
3200						3205					3210			
Leu	Gln	Asp	Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys
3215						3220					3225			
Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val
3230						3235					3240			
Leu	Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser
3245						3250					3255			
Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu
3260						3265					3270			
Ala	Ala	Leu	Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp
3275						3280					3285			
Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu
3290						3295					3300			
Gly	Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe
3305						3310					3315			
Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn
3320						3325					3330			

Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys
3335						3340					3345			
Met	Glu	Ser	Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Ala	Glu	Val
3350						3355					3360			
Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His
3365						3370					3375			
Ile	Ile	Asp	Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe
3380						3385					3390			
Trp	Trp	Ser	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn
3395						3400					3405			
His	Val	Thr	Met	Val	Thr	Ala	Asp	His	Met	Asn	Pro	Leu	Leu	Arg
3410						3415					3420			
Asn	Val	Leu	Lys	Met	Ile	Lys	Lys	Asn	Ile	Gly	Asn	Asp	Asn	Ala
3425						3430					3435			
Pro	Trp	Met	Thr	Arg	Ile	Ala	Ala	Tyr	Thr	Gln	Gln	Ile	Ile	Ile
3440						3445					3450			
Asn	Thr	Ser	Glu	Glu	Leu	Leu	Lys	Asp	Pro	Phe	Leu	Pro	Leu	Ala
3455						3460					3465			
Glu	Arg	Val	Lys	Lys	Arg	Thr	Glu	Asn	Met	Leu	His	Lys	Glu	Asp
3470						3475					3480			
Ser	Met	Arg	Gly	Phe	Ile	Lys	Ser	Ala	Thr	Asp	Asp	Thr	Ser	Gln
3485						3490					3495			
Val	Glu	Thr	Gln	Leu	Gln	Glu	Asp	Trp	Asn	Leu	Leu	Val	Arg	Asp
3500						3505					3510			
Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln
3515						3520					3525			
Arg	Asn	His	Trp	Leu	Lys	Asp	Asn	Ile	Pro	Glu	Ala	Glu	Glu	Leu
3530						3535					3540			
Tyr	Asn	His	Val	Ala	Glu	Ile	Phe	Asn	Ile	Trp	Ser	Lys	Ser	Gln
3545						3550					3555			
Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile
3560						3565					3570			
Asp	Asn	Met	Ala	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala
3575						3580					3585			
Ile	Ser	Glu	Gly	Ala	Pro	Ala	Val	Gly	Gly	Lys	Val	Lys	Lys	Lys
3590						3595					3600			
Lys	Lys	Asn	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Val	Gln
3605						3610					3615			
Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly
3620						3625					3630			

Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys
3635						3640					3645			
Lys	Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Asp	Val	Ile	Glu
3650						3655					3660			
Phe	Ala	Arg	Asn	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ser
3665						3670					3675			
Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Lys
3680						3685					3690			
Thr	Glu	Glu	Pro	Val	Asp	Glu	Gln	Ala	Leu	Glu	Lys	Ala	Asn	Val
3695						3700					3705			
Asn	Ser	Asn	Glu	Lys	Gly	Lys	Asp	Lys	Thr	Gln	Glu	Thr	Val	Asp
3710						3715					3720			
Arg	Ile	Val	Ala	Met	Ala	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile
3725						3730					3735			
Asp	His	Pro	Gln	Gln	Gln	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val
3740						3745					3750			
Ser	Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr
3755						3760					3765			
Ser	Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala
3770						3775					3780			
Arg	Ser	Tyr	Tyr	Glu	Gln	Trp	Leu	Gln	Glu	Glu	Asn	Val	Gly	Gln
3785						3790					3795			
Glu	Val	Met	Val	Glu	Asp	Leu	Thr	Gln	Thr	Phe	Glu	Asp	Ser	Glu
3800						3805					3810			
Lys	Ser	Lys	Lys	Glu	Gly	Glu	Glu	Thr	Asp	Ser	Lys	Pro	Asp	Pro
3815						3820					3825			
Leu	Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu
3830						3835					3840			
Arg	Ser	Gly	Ala	Leu	Gln	Glu	Asp	Leu	Leu	Tyr	Met	Ser	Tyr	Ala
3845						3850					3855			
Gln	Ile	Ala	Ala	Lys	Ser	Thr	Gly	Lys	Glu	Glu	Glu	Glu	Gly	Gly
3860						3865					3870			
Asp	Glu	Glu	Gly	Gly	Glu	Gly	Gly	Glu	Glu	Gly	Glu	Gly	Thr	Ser
3875						3880					3885			
Ile	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln
3890						3895					3900			
Ala	Arg	Leu	Ser	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His
3905						3910					3915			
Ile	Ser	Ala	Ser	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Thr	Thr
3920						3925					3930			

Leu	Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile
3935						3940					3945			
Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly
3950						3955					3960			
Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu
3965						3970					3975			
Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly
3980						3985					3990			
Val	Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala
3995						4000					4005			
Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu
4010						4015					4020			
Gly	His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly
4025						4030					4035			
Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu
4040						4045					4050			
Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser
4055						4060					4065			
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Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Ala	Asp	Leu	Ile	Glu
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Thr	Pro	Lys	Asp	Phe	Arg	Glu	Lys	Met	Glu	Gln	Ser	Lys	Asn	Tyr
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4970						4975					4980			
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 35 40 45
 Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60
 Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80
 Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95
 Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110
 Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
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 Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
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 Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
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 Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
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 Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
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 Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
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 Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
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 Gln Asn Ile Val Ile Tyr Glu Gly Gly Val Val Met Ala Gln Ala Arg
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Glu	Ala	Ser	Ile	Ala	Thr	Thr	Thr	Phe	Cys	Leu	Arg	Gln	Glu	Lys	Asp	
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Thr	Ser	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	
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Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	
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Met	Asp	Asp	Cys	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Lys	
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Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Gln	Phe	Ile	
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Gln	Lys	Val	Asn	Leu	Asn	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	
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Gly	Val	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Ile	Ile	
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Thr	Ser	Gln	Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Gly	Asp	Glu	Thr	Gly	
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Gln	Ser	Trp	Asp	Leu	Ile	Ser	Thr	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	
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Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys	Val	Leu	Asp	Val	Leu	Cys
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Ile	Cys	Asp	Phe	Leu	Leu	Pro	Gly	Lys	Asn	Leu	Leu	Leu	Gln	Thr	Leu
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Leu	Val	Asp	His	Val	Ala	Ser	Ile	Arg	Pro	Asn	Ile	Phe	Val	Gly	Arg
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Asp	His	Ile	Glu	Gln	Thr	Thr	His	Met	Met	Pro	His	Leu	Arg	Ile	Gly
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Trp	Ala	Asn	Thr	Ser	Gly	Tyr	Val	Pro	Tyr	Pro	Gly	Gly	Gly	Lys	Lys
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Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu	Tyr	Ser	Phe	Gly	Phe	Asp
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Gly	Ala	Phe	Leu	Trp	Thr	Gly	Gly	Arg	Lys	Thr	Leu	Val	Val	Asp	Ala
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Asp	His	Gly	Arg	Leu	Lys	Phe	Ala	Pro	Pro	Met	Gly	Phe	Ser	Ala	Leu
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Phe	Met	Gln	Gly	Asn	Gly	Tyr	Lys	Pro	Ala	Pro	Leu	Asp	Leu	Ser	Ala	
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Val Arg Ala Asp Glu Leu Phe	Asn Glu Val Thr Gln	Asp Ala Ser
1595	1600	1605
Gly Lys Gly Ala Ser Gln Gly	Met Phe Val Gly Cys	Phe Val Asp
1610	1615	1620
Thr Ala Thr Gly Ile Ile Arg	Phe Thr Cys Glu Gly	Lys Asp Thr
1625	1630	1635
Ser His Arg Trp Met Met Glu	Pro Asp Thr Lys Leu	Phe Pro Ala
1640	1645	1650
Ile Phe Val Glu Ala Thr Ser	Lys Glu Ile Leu Gln	Ile Glu Leu
1655	1660	1665
Gly Arg Thr Pro Thr Thr Leu	Pro Leu Ser Ala Ala	Val Leu Pro
1670	1675	1680
Thr Ser Asp Lys His Ile Asn	Pro Gln Ser Pro Pro	Arg Leu Lys
1685	1690	1695
Val Gln Cys Leu Arg Pro His	Gln Trp Ala Arg Val	Pro Asn Thr
1700	1705	1710
Ala Leu Gln Val His Ala Leu	Lys Leu Ser Asp Val	Arg Gly Trp
1715	1720	1725
Ser Met Leu Cys Glu Asp Pro	Val Ser Met Leu Ala	Leu His Ile
1730	1735	1740
Pro Glu Glu Asp Arg Cys Ile	Asp Ile Leu Glu Leu	Ile Glu Met
1745	1750	1755
Asp Lys Leu Leu Ser Phe His	Ala His Ser Leu Thr	Leu Tyr Ala
1760	1765	1770
Ala Leu Cys Tyr Gln Ser Asn	Tyr Arg Ala Ala His	Ala Leu Cys
1775	1780	1785
Gln His Val Asp Gln Lys Gln	Leu Leu Tyr Ala Ile	Arg Ser Glu
1790	1795	1800
Tyr Met Ser Gly Pro Leu Arg	Gln Gly Phe Tyr Asp	Leu Leu Ile

1805	1810	1815
Ala Leu His Leu Glu Ser His 1820	Ala Thr Thr Met 1825	Glu Val Cys Lys 1830
Asn Glu Tyr Ile Thr Pro Leu 1835	Gly Ala Glu Leu 1840	Lys Glu Leu Tyr 1845
Ser Asp Glu Glu Met Gln His 1850	Ser Leu Arg Ser 1855	Leu Val Thr Glu 1860
Ser Val Arg Pro Gln Leu Arg 1865	Met Thr Glu Ile 1870	Thr Glu Pro Ile 1875
Pro Asp Ile Asp Gln Leu Tyr 1880	Ser Pro Lys Phe 1885	Pro Leu Glu Val 1890
Val Arg Gln Phe Val Met Glu 1895	Ala Leu Lys Asp 1900	Ala Val Glu Ile 1905
Asn Gln Val His Asn Arg Asp 1910	Pro Ile Gly Trp 1915	Thr Asn Glu Asn 1920
Leu Phe Leu Pro Leu Ile Lys 1925	Leu Thr Asp Arg 1930	Leu Leu Leu Val 1935
Gly Val Leu Thr Asp Glu Asp 1940	Val Gln Arg Leu 1945	Leu Val Met Ile 1950
Asp Pro Glu Thr Trp Asp Gln 1955	Ala Phe Glu Arg 1960	Glu Gly Lys Asp 1965
Glu His Arg Lys Gly Leu Leu 1970	Thr Met Lys Met 1975	Ala Glu Gly Ala 1980
Lys Leu Gln Met Cys Tyr Leu 1985	Leu His His Leu 1990	Tyr Asp Thr Gln 1995
Leu Arg His Arg Val Glu Ser 2000	Ile Ile Ala Phe 2005	Ser His Asp Phe 2010
Val Gly Asp Leu Gln Thr Asp 2015	Gln Leu Arg Arg 2020	Tyr Ile Glu Ile 2025
Lys Gln Ser Asp Leu Pro Ser 2030	Ala Val Ala Ala 2035	Lys Lys Thr Lys 2040
Glu Phe Arg Cys Pro Pro Arg 2045	Glu Gln Met Asn 2050	Gln Ile Leu Cys 2055
Phe Lys Asn Leu Glu Pro Asp 2060	Asp Gln Asp Asn 2065	Cys Thr Cys Gly 2070
Leu Glu Leu Arg Gly Arg Leu 2075	Gly Asp Phe His 2080	Asp Ser Leu Met 2085
Gln Lys Val Ser Leu Asn Ala 2090	Leu Gln Glu Pro 2095	Asp Gly Val Glu 2100
Gly Thr Ala Ile Glu Glu Val	Lys Thr Gly Pro	Ile Thr Lys Ile

2105		2110		2115
Tyr Asn Phe Ile Asn Thr Val	Lys Glu Leu Glu Glu Gly Pro Lys			
2120	2125	2130		
Glu Val Glu Glu Pro Glu Lys	Lys Thr Pro Glu Glu Val Phe Arg			
2135	2140	2145		
Lys Val Leu Ile Lys Thr Ile	Val Ser Trp Ala Glu Glu Ser Gln			
2150	2155	2160		
Ile Glu Asn Pro Lys Leu Val	Arg Glu Met Phe Ser Leu Leu Leu			
2165	2170	2175		
Arg Gln Tyr Asp Thr Val Gly	Glu Leu Val Arg Ala Leu Glu Lys			
2180	2185	2190		
Thr Tyr Val Ile Asn Thr Arg	Ala Arg Asp Asp Val Ala Glu Met			
2195	2200	2205		
Trp Val Gly Leu Ser Gln Ile	Arg Ala Leu Leu Pro Val Gln Met			
2210	2215	2220		
Ser Gln Glu Glu Glu Glu Leu	Met Arg Lys Arg Leu Trp Lys Leu			
2225	2230	2235		
Val Asn Asn Ala Thr Phe Phe	Gln His Pro Asp Leu Ile Arg Ile			
2240	2245	2250		
Leu Arg Val His Glu Asn Val	Met Ala Val Met Met Asn Thr Leu			
2255	2260	2265		
Gly Arg Arg Ala Gln Ala Gln	Ser Asp Ala Pro Thr Gln Ser Glu			
2270	2275	2280		
Val Ala Glu Gly Ala Pro Ser	Lys Glu Lys Asp Thr Ser His Glu			
2285	2290	2295		
Met Val Val Ala Cys Cys Arg	Phe Leu Cys Tyr Phe Cys Arg Thr			
2300	2305	2310		
Gly Arg Gln Asn Gln Lys Ala	Met Phe Asp His Phe Asp Phe Leu			
2315	2320	2325		
Leu Asp Asn Ala Asn Ile Leu	Leu Ala Arg Pro Ser Leu Arg Gly			
2330	2335	2340		
Ser Thr Pro Leu Asp Val Ala	Tyr Ser Ser Leu Met Glu Asn Thr			
2345	2350	2355		
Glu Leu Ala Leu Ala Leu Arg	Glu His Tyr Leu Glu Lys Ile Ala			
2360	2365	2370		
Val Tyr Leu Ser Arg Cys Gly	Leu Gln Ser Asn Ser Glu Leu Val			
2375	2380	2385		
Glu Lys Gly Tyr Pro Asp Leu	Gly Trp Asp Pro Val Glu Gly Glu			
2390	2395	2400		
Arg Tyr Leu Asp Phe Leu Arg	Tyr Cys Val Trp Val Asn Gly Glu			

2405	2410	2415
Ser Val Glu Glu Asn Ala Asn 2420	Leu Val Ile Arg 2425	Leu Leu Ile Arg 2430
Arg Pro Glu Cys Leu Gly Pro 2435	Ala Leu Arg Gly 2440	Glu Gly Glu Gly 2445
Leu Phe Arg Ala Ile Val Glu 2450	Ala Asn Arg Met 2455	Ser Glu Arg Ile 2460
Ser Asp Arg Cys Lys Met Gln 2465	Asp Glu Ala Glu 2470	Gly Thr Ile Ala 2475
Gly Leu Asn Phe Thr His Pro 2480	Leu Pro Glu Gly 2485	Glu Glu Asp Glu 2490
Asp Tyr Ile Asp Thr Gly Ala 2495	Ala Ile Leu Asn 2500	Phe Tyr Cys Thr 2505
Leu Val Asp Leu Leu Gly Arg 2510	Cys Ala Pro Asp 2515	Ala Ser Val Ile 2520
Glu Gln Gly Lys Asn Glu Ser 2525	Leu Arg Ala Arg 2530	Ala Ile Leu Arg 2535
Ser Leu Val Pro Leu Glu Asp 2540	Leu Gln Gly Val 2545	Leu Ser Leu Lys 2550
Phe Thr Leu Ser Gln Thr Ala 2555	Pro Gly Glu Glu 2560	Lys Pro Lys Ser 2565
Asp Met Pro Ser Gly Leu Leu 2570	Pro Asn Asn Lys 2575	Gln Ser Ile Val 2580
Leu Phe Leu Glu Arg Val Tyr 2585	Gly Ile Glu Ala 2590	Gln Asp Leu Phe 2595
Tyr Arg Leu Leu Glu Asp Ala 2600	Phe Leu Pro Asp 2605	Leu Arg Thr Ala 2610
Thr Ile Leu Asp Lys Ser Asp 2615	Gly Ser Glu Ser 2620	Asp Met Ala Leu 2625
Ala Met Asn Arg Tyr Ile Gly 2630	Asn Ser Ile Leu 2635	Pro Leu Leu Ile 2640
Lys His Ser Lys Phe Tyr Asn 2645	Glu Ala Glu Asn 2650	Tyr Ala Ser Leu 2655
Leu Asp Ala Thr Leu His Thr 2660	Val Tyr Arg Leu 2665	Ser Lys Asn Arg 2670
Met Leu Thr Lys Gly Gln Arg 2675	Glu Ala Val Ser 2680	Asp Phe Leu Val 2685
Ala Leu Thr Ser Gln Met Gln 2690	Pro Ala Met Leu 2695	Leu Lys Leu Leu 2700
Arg Lys Leu Thr Val Asp Val	Ser Lys Leu Ser Glu	Tyr Thr Thr

2705	2710	2715
Val Ala Leu Arg Leu Leu Thr 2720	Leu His Phe Asp Arg 2725	Cys Ala Lys 2730
Tyr Tyr Gly Ser Thr Gln Gly 2735	Gln Gly Ser Tyr Gly 2740	Ala Ser Ser 2745
Asp Glu Glu Lys Arg Leu Thr 2750	Met Leu Leu Phe Ser 2755	Asn Ile Phe 2760
Asp Ser Leu Ser Asn Met Asp 2765	Tyr Asp Pro Glu Leu 2770	Phe Gly Lys 2775
Ala Leu Pro Cys Leu Ile Ala 2780	Ile Gly Cys Ala Leu 2785	Pro Pro Asp 2790
Tyr Ser Leu Ser Lys Asn Thr 2795	Asp Glu Asp Tyr Tyr 2800	Gly Arg Gln 2805
Met Gly Ala Pro Asp Gln Pro 2810	Gln Tyr Met Pro Asn 2815	Pro Ile Asp 2820
Thr Asn Asn Val His Leu Asp 2825	Asn Asp Leu Asn Ser 2830	Leu Val Gln 2835
Lys Phe Ser Glu His Tyr His 2840	Asp Ala Trp Ala Ser 2845	Arg Arg Leu 2850
Glu Gly Gly Trp Thr Tyr Gly 2855	Asp Ile Arg Ser Asp 2860	Asn Asp Arg 2865
Lys His Pro Arg Leu Lys Pro 2870	Tyr Asn Met Leu Ser 2875	Glu Tyr Glu 2880
Arg Glu Arg Tyr Arg Asp Pro 2885	Val Arg Glu Cys Leu 2890	Lys Gly Leu 2895
Leu Ala Ile Gly Trp Thr Val 2900	Glu His Ser Glu Val 2905	Glu Val Ala 2910
Leu Asn His Arg Gly Ser Thr 2915	Arg Arg Gln Ser Lys 2920	Pro Gln Ile 2925
Asn Glu Phe Gln Asn Glu Gly 2930	Ser Pro Phe Asn Tyr 2935	Asn Pro His 2940
Pro Val Asp Met Ser Asn Leu 2945	Thr Leu Ser Arg Glu 2950	Met Gln Asn 2955
Met Ala Glu Arg Leu Ala Glu 2960	Asn Ser His Asp Ile 2965	Trp Ala Lys 2970
Lys Lys Asn Glu Glu Leu Asn 2975	Gly Cys Gly Gly Val 2980	Ile His Pro 2985
Gln Leu Val Pro Tyr Asp Leu 2990	Leu Thr Asp Lys Glu 2995	Lys Lys Lys 3000
Asp Arg Glu Arg Ser Gln Glu	Phe Leu Lys Tyr Met	Gln Tyr Gln

3005				3010				3015			
Gly Tyr	Lys Leu His	Lys Pro	Ser Lys Gly Gly	Ala Val Glu Glu							
3020		3025		3030							
Gly Gly	Ala Thr Gln Ala	Ala Val Glu Leu Arg	Phe Ser Tyr Ser								
3035		3040	3045								
Leu Leu	Glu Lys Leu Ile	Gln Tyr Leu Asp Arg	Ala Thr Ile Asn								
3050		3055	3060								
Met Lys	Leu Leu Lys Pro	Ser Thr Thr Phe Ser	Arg Arg Ser Ser								
3065		3070	3075								
Phe Lys	Thr Ala Thr Arg	Asp Ile Lys Phe Phe	Ser Lys Val Val								
3080		3085	3090								
Leu Pro	Leu Met Glu Lys	Tyr Phe Ser Thr His	Arg Asn Tyr Phe								
3095		3100	3105								
Ile Ala	Ile Ala Thr Ala	Thr Asn Asn Ile Gly	Ala Ala Ser Leu								
3110		3115	3120								
Lys Glu	Lys Glu Met Val	Ala Ser Ile Phe Cys	Lys Leu Ala Ala								
3125		3130	3135								
Leu Leu	Arg Asn Arg Leu	Ser Ala Phe Gly Pro	Asp Val Arg Ile								
3140		3145	3150								
Thr Val	Arg Cys Leu Gln	Val Leu Val Lys Gly	Ile Asp Ala Arg								
3155		3160	3165								
Thr Leu	Thr Lys Asn Cys	Pro Glu Phe Ile Arg	Thr Ser Met Leu								
3170		3175	3180								
Thr Phe	Phe Asn Gln Thr	Ser Asp Asp Leu Gly	Asn Thr Ile Leu								
3185		3190	3195								
Asn Leu	Gln Asp Gly Lys	Tyr Ser His Leu Arg	Gly Thr His Leu								
3200		3205	3210								
Lys Thr	Ser Thr Ser Leu	Gly Tyr Val Asn Gln	Val Val Leu Pro								
3215		3220	3225								
Val Leu	Thr Ala Met Phe	Asp His Leu Ala Ala	Cys Asp Tyr Gly								
3230		3235	3240								
Ser Asp	Leu Leu Leu Asp	Glu Ile Gln Val Ala	Ser Tyr Lys Ile								
3245		3250	3255								
Leu Ala	Ala Leu Tyr His	Leu Gly Thr Asp Gly	Thr Leu Thr His								
3260		3265	3270								
Asp Arg	Lys Tyr Leu Lys	Thr Glu Ile Glu Arg	His Arg Pro Ala								
3275		3280	3285								
Leu Gly	Ser Cys Leu Gly	Ala Tyr Ser Ser Cys	Phe Pro Val Ala								
3290		3295	3300								
Phe Leu	Glu Pro His Leu	Asn Lys His Asn Gln	Tyr Ser Leu Leu								

3305				3310				3315			
Asn Arg	Ile Ala	Asp His	Ser	Leu Glu	Ala Gln	Asp	Ile Met	Val			
3320			3325			3330					
Lys Met	Glu Ser	Cys Met	Pro	Asn Leu	Glu Thr	Ile	Leu Ala	Glu			
3335			3340			3345					
Val Asp	Gln Phe	Val Glu	Ser	Asp Lys	Thr Tyr	Asn	Asp Ala	Pro			
3350			3355			3360					
His Ile	Ile Asp	Val Ile	Leu	Pro Leu	Leu Cys	Ala	Tyr Leu	Pro			
3365			3370			3375					
Phe Trp	Trp Ser	Gln Gly	Pro	Asp Asn	Val Ser	Pro	Thr Ser	Gly			
3380			3385			3390					
Asn His	Val Thr	Met Val	Thr	Ala Asp	His Met	Asn	Pro Leu	Leu			
3395			3400			3405					
Arg Asn	Val Leu	Lys Met	Ile	Lys Lys	Asn Ile	Gly	Asn Asp	Asn			
3410			3415			3420					
Ala Pro	Trp Met	Thr Arg	Ile	Ala Ala	Tyr Thr	Gln	Gln Ile	Ile			
3425			3430			3435					
Ile Asn	Thr Ser	Glu Glu	Leu	Leu Lys	Asp Pro	Phe	Leu Pro	Leu			
3440			3445			3450					
Ala Glu	Arg Val	Lys Lys	Arg	Thr Glu	Asn Met	Leu	His Lys	Glu			
3455			3460			3465					
Asp Ser	Met Arg	Gly Phe	Ile	Lys Ser	Ala Thr	Asp	Asp Thr	Ser			
3470			3475			3480					
Gln Val	Glu Thr	Gln Leu	Gln	Glu Asp	Trp Asn	Leu	Leu Val	Arg			
3485			3490			3495					
Asp Ile	Tyr Ser	Phe Tyr	Pro	Leu Leu	Ile Lys	Tyr	Val Asp	Leu			
3500			3505			3510					
Gln Arg	Asn His	Trp Leu	Lys	Asp Asn	Ile Pro	Glu	Ala Glu	Glu			
3515			3520			3525					
Leu Tyr	Asn His	Val Ala	Glu	Ile Phe	Asn Ile	Trp	Ser Lys	Ser			
3530			3535			3540					
Gln Tyr	Phe Leu	Lys Glu	Glu	Gln Asn	Phe Ile	Ser	Ala Asn	Glu			
3545			3550			3555					
Ile Asp	Asn Met	Ala Leu	Ile	Met Pro	Thr Ala	Thr	Arg Arg	Ser			
3560			3565			3570					
Ala Ile	Ser Glu	Gly Ala	Pro	Ala Val	Gly Gly	Lys	Val Lys	Lys			
3575			3580			3585					
Lys Lys	Lys Asn	Arg Asp	Lys	Lys Arg	Asp Lys	Asp	Lys Glu	Val			
3590			3595			3600					
Gln Ala	Ser Leu	Met Val	Ala	Cys Leu	Lys Arg	Leu	Leu Pro	Val			

3605		3610		3615
Gly Leu Asn Leu Phe Ala	Gly Arg Glu Gln Glu	Leu Val Gln His		
3620	3625	3630		
Cys Lys Asp Arg Tyr Leu	Lys Lys Met Pro Glu	Tyr Asp Val Ile		
3635	3640	3645		
Glu Phe Ala Arg Asn Gln	Leu Thr Leu Pro Asp	Lys Leu Asp Pro		
3650	3655	3660		
Ser Asp Glu Met Ser Trp	Gln His Tyr Leu Tyr	Ser Lys Leu Gly		
3665	3670	3675		
Lys Thr Glu Glu Pro Val	Asp Glu Gln Ala Leu	Glu Lys Ala Asn		
3680	3685	3690		
Val Asn Ser Asn Glu Lys	Gly Lys Asp Lys Thr	Gln Glu Thr Val		
3695	3700	3705		
Asp Arg Ile Val Ala Met	Ala Lys Val Leu Phe	Gly Leu His Met		
3710	3715	3720		
Ile Asp His Pro Gln Gln	Gln Ser Lys Asn Val	Tyr Arg Ser Val		
3725	3730	3735		
Val Ser Ile Gln Arg Lys	Arg Ala Val Ile Ala	Cys Phe Arg Gln		
3740	3745	3750		
Thr Ser Leu His Ser Leu	Pro Arg His Arg Ala	Cys Asn Ile Phe		
3755	3760	3765		
Ala Arg Ser Tyr Tyr Glu	Gln Trp Leu Gln Glu	Glu Asn Val Gly		
3770	3775	3780		
Gln Glu Val Met Val Glu	Asp Leu Thr Gln Thr	Phe Glu Asp Ser		
3785	3790	3795		
Glu Lys Ser Lys Lys Glu	Gly Glu Glu Thr Asp	Ser Lys Pro Asp		
3800	3805	3810		
Pro Leu Thr Gln Leu Val	Thr Thr Phe Cys Arg	Gly Ala Met Thr		
3815	3820	3825		
Glu Arg Ser Gly Ala Leu	Gln Glu Asp Leu Leu	Tyr Met Ser Tyr		
3830	3835	3840		
Ala Gln Ile Ala Ala Lys	Ser Thr Gly Lys Glu	Glu Glu Glu Gly		
3845	3850	3855		
Gly Asp Glu Glu Gly Gly	Glu Gly Gly Glu Glu	Gly Glu Gly Thr		
3860	3865	3870		
Ser Ile His Glu Gln Glu	Met Glu Lys Gln Lys	Leu Leu Phe His		
3875	3880	3885		
Gln Ala Arg Leu Ser Asn	Arg Gly Val Ala Glu	Met Val Leu Leu		
3890	3895	3900		
His Ile Ser Ala Ser Lys	Gly Ile Pro Ser Glu	Met Val Met Thr		

3905					3910					3915				
Thr	Leu	Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp
3920						3925					3930			
Ile	Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val
3935						3940					3945			
Gly	Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val
3950						3955					3960			
Leu	Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu
3965						3970					3975			
Gly	Val	Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp
3980						3985					3990			
Ala	Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys
3995						4000					4005			
Glu	Gly	His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala
4010						4015					4020			
Gly	Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr
4025						4030					4035			
Leu	Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr
4040						4045					4050			
Ser	Ser	Lys	Glu	Ile	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe
4055						4060					4065			
Lys	Ala	Ile	Glu	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Thr	Glu
4070						4075					4080			
Val	Ile	Gln	Gly	Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His
4085						4090					4095			
Ser	Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser
4100						4105					4110			
His	Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu
4115						4120					4125			
Leu	Lys	Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met
4130						4135					4140			
Leu	Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys
4145						4150					4155			
Gln	Met	Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu
4160						4165					4170			
Ile	Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Ala	Asp	Leu	Ile
4175						4180					4185			
Glu	Ser	Pro	Ser	Phe	His	Glu	Val	Asp	Met	Lys	Asn	Glu	Gly	Trp
4190						4195					4200			
Val	Thr	Pro	Lys	Asp	Phe	Arg	Glu	Lys	Met	Glu	Gln	Ser	Lys	Asn

4205	4210	4215
Tyr Thr Pro Glu Glu Met Asp Phe Leu Leu Ala Cys Cys Glu Arg		
4220	4225	4230
Asn His Glu Gly Lys Ile Asp Tyr Arg Ala Phe Val Glu His Phe		
4235	4240	4245
His Glu Pro Ser Lys Glu Ile Gly Phe Asn Leu Ala Val Leu Leu		
4250	4255	4260
Thr Asn Leu Ser Glu His Met Pro Asn Glu Pro Arg Leu Ala Arg		
4265	4270	4275
Phe Leu Glu Thr Ala Gly Ser Val Leu Asn Tyr Phe Glu Pro Phe		
4280	4285	4290
Leu Gly Arg Ile Glu Ile Leu Gly Ser Ser Lys Arg Ile Glu Arg		
4295	4300	4305
Val Tyr Phe Glu Ile Lys Asp Ser Asn Ile Glu Gln Trp Glu Lys		
4310	4315	4320
Pro Gln Ile Arg Glu Ser Lys Arg Ala Phe Phe Tyr Ser Ile Val		
4325	4330	4335
Thr Glu Gly Gly Asp Lys Glu Lys Leu Glu Ala Phe Val Asn Phe		
4340	4345	4350
Cys Glu Asp Ala Ile Phe Glu Met Thr His Ala Ser Gly Leu Met		
4355	4360	4365
Ala Thr Asp Asp Gly Gly Gly Asn Val Lys Arg Asp Thr Ala Tyr		
4370	4375	4380
Ser Ser Tyr Met Ser Glu Glu Glu Glu Glu Arg Ala Ala Arg Asp		
4385	4390	4395
Pro Ile Arg Arg Thr Ile Thr Ala Val Lys Glu Gly Leu Lys Phe		
4400	4405	4410
Gly Val His Met Leu Ser Pro Ala Asn Ile Lys His Gln Ile Gly		
4415	4420	4425
Val Met Gln Thr Lys Ser Ile Pro Glu Leu Ile Val Gly Phe Phe		
4430	4435	4440
Lys Ile Ile Phe Tyr Ile Phe Tyr Tyr Thr Gly Tyr Ala His Phe		
4445	4450	4455
Cys Val Val Arg Tyr Ile Phe Gly Ile Leu Leu Asn Leu Met Arg		
4460	4465	4470
Gly Pro Ala Pro Glu Gln Glu Glu Glu Pro Val Val Glu Glu Glu		
4475	4480	4485
Thr Phe Gly Arg Ala Leu Pro Pro Leu Pro Leu Glu Glu Pro Pro		
4490	4495	4500
Gly Thr Val Gln Ala Phe Gly Leu Asp Ile Asn Lys Glu Glu Asn		

4505		4510		4515
Gly Met Tyr Lys Val Val Val	His Glu Ser Pro Ala Asn Ser Ser			
4520	4525	4530		
Met Glu Glu Gly Gly Glu Ser	Ser Pro Glu Asp Gly Ala Ala Ala			
4535	4540	4545		
Ser Gly Glu Leu Val Glu Gly	Glu Pro His Gln Glu Pro Ile Ser			
4550	4555	4560		
Ile Val Asp Leu Leu Gly Gly	Glu Ala Ala Lys Lys Ala Ala Gln			
4565	4570	4575		
Glu Arg Gln Glu Ala Gln Lys	Ala Gln Glu Ala Ala Met Ala Ser			
4580	4585	4590		
Ile Glu Ala Glu Ala Lys Lys	Ser Ser Ser Ala Pro Gln Glu Thr			
4595	4600	4605		
Pro Ala Val His Gln Ile Asp	Phe Ser Gln Tyr Thr His Arg Ala			
4610	4615	4620		
Val Ser Phe Leu Ala Arg Asn	Phe Tyr Asn Leu Lys Tyr Val Ala			
4625	4630	4635		
Leu Val Leu Ala Phe Ser Ile	Asn Phe Met Leu Leu Phe Tyr Lys			
4640	4645	4650		
Val Thr Ser Phe Thr Glu Glu	Ala Asp Ser Ser Ala Glu Glu Glu			
4655	4660	4665		
Leu Ile Leu Gly Ser Gly Ser	Gly Gly Gly Ala Asp Ile Thr Gly			
4670	4675	4680		
Ser Gly Phe Gly Gly Ser Gly	Asp Gly Gly Ser Gly Asp Gly Glu			
4685	4690	4695		
Met Glu Asp Glu Ile Pro Glu	Leu Val His Val Asp Glu Asp Phe			
4700	4705	4710		
Phe Tyr Met Glu His Val Leu	Arg Ile Ala Ala Cys Leu His Ser			
4715	4720	4725		
Leu Val Ser Leu Ala Met Leu	Ile Ala Tyr Tyr His Leu Lys Val			
4730	4735	4740		
Pro Leu Ala Ile Phe Lys Arg	Glu Lys Glu Ile Ala Arg Arg Leu			
4745	4750	4755		
Glu Phe Glu Gly Leu Phe Ile	Ala Glu Gln Pro Glu Asp Asp Asp			
4760	4765	4770		
Phe Lys Ser His Trp Asp Lys	Leu Val Ile Ser Ala Lys Ser Phe			
4775	4780	4785		
Pro Val Asn Tyr Trp Asp Lys	Phe Val Lys Lys Lys Val Arg Gln			
4790	4795	4800		
Lys Tyr Ser Glu Thr Tyr Asp	Phe Asp Ser Ile Ser Asn Leu Leu			

4805		4810		4815
Gly Met	Glu Lys Ser Thr	Phe	Ala Ala Gln Glu	Ser Glu Glu Thr
4820		4825		4830
Gly Ile	Phe Lys Tyr Ile	Met	Asn Ile Asp Trp	Arg Tyr Gln Val
4835		4840		4845
Trp Lys	Ala Gly Val Thr	Phe	Thr Asp Asn Ala	Phe Leu Tyr Ser
4850		4855		4860
Leu Trp	Tyr Phe Ser Phe	Ser	Val Met Gly Asn	Phe Asn Asn Phe
4865		4870		4875
Phe Phe	Ala Ala His Leu	Leu	Asp Val Ala Val	Gly Phe Lys Thr
4880		4885		4890
Leu Arg	Thr Ile Leu Gln	Ser	Val Thr His Asn	Gly Lys Gln Leu
4895		4900		4905
Val Leu	Thr Val Met Leu	Leu	Thr Ile Ile Val	Tyr Ile Tyr Thr
4910		4915		4920
Val Ile	Ala Phe Asn Phe	Phe	Arg Lys Phe Tyr	Ile Gln Glu Glu
4925		4930		4935
Asp Glu	Glu Val Asp Lys	Lys	Cys His Asp Met	Leu Thr Cys Phe
4940		4945		4950
Val Phe	His Leu Tyr Lys	Gly	Val Arg Ala Gly	Gly Gly Ile Gly
4955		4960		4965
Asp Glu	Ile Gly Asp Pro	Asp	Gly Asp Asp Tyr	Glu Val Tyr Arg
4970		4975		4980
Ile Ile	Phe Asp Ile Thr	Phe	Phe Phe Phe Val	Ile Ile Ile Leu
4985		4990		4995
Leu Ala	Ile Ile Gln Gly	Leu	Ile Ile Asp Ala	Phe Gly Glu Leu
5000		5005		5010
Arg Asp	Gln Leu Glu Ser	Val	Lys Asp Asn Met	Glu Ser Asn Cys
5015		5020		5025
Phe Ile	Cys Gly Met Gly	Lys	Asp Phe Phe Asp	Ile Val Pro His
5030		5035		5040
Gly Phe	Asp Thr His Val	Gln	Lys Glu His Asn	Leu Ala Asn Tyr
5045		5050		5055
Met Phe	Phe Leu Met His	Leu	Ile Asn Lys Pro	Asp Thr Glu Tyr
5060		5065		5070
Thr Gly	Gln Glu Thr Tyr	Val	Trp Asn Met Tyr	Gln Gln Arg Ser
5075		5080		5085
Trp Asp	Phe Phe Pro Val	Gly	Asp Cys Phe Arg	Lys Gln Tyr Glu
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5105

5110

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 Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu
 35 40 45
 Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60
 Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80
 Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95
 Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110
 Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
 115 120 125
 Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
 130 135 140
 Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
 145 150 155 160
 Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
 165 170 175
 Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
 180 185 190
 Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
 195 200 205
 Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
 210 215 220
 Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Gly Arg Glu Ala Gly
 225 230 235 240
 Gln Asn Ile Val Ile Tyr Glu Gly Gly Val Val Met Ala Gln Ala Arg
 245 250 255

Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	Lys	Trp	Thr	Gly	Gly	Phe	
			260					265					270			
Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	His	Ile	Thr	Thr	Gly	Arg	
		275					280					285				
Tyr	Leu	Gly	Val	Asn	Asp	Ser	Asn	Glu	Leu	Ile	Leu	Val	Lys	Lys	Glu	
	290					295					300					
Glu	Ala	Ser	Ile	Ala	Thr	Thr	Thr	Phe	Cys	Leu	Arg	Gln	Glu	Lys	Asp	
305					310					315					320	
Asp	Glu	Lys	Lys	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	Ser	
				325					330					335		
Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Thr	Thr	Val	Ile	Val	Gln	His	Cys	Glu	
			340					345					350			
Thr	Ser	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	
		355					360					365				
Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	
	370					375					380					
Met	Asp	Asp	Cys	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Lys	
385					390					395					400	
Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Gln	Phe	Ile	
				405					410					415		
Thr	Ala	Leu	Glu	Thr	Leu	Gln	Ser	Asn	Arg	Arg	His	Ser	Ile	Phe	Phe	
			420					425					430			
Gln	Lys	Val	Asn	Leu	Asn	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	
		435					440					445				
Asn	Tyr	Phe	Ser	Gln	Pro	Glu	Asp	Asp	Met	Glu	His	Glu	Glu	Lys	Gln	
	450					455					460					
Asn	Arg	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	Glu	
465					470					475					480	
Gly	Val	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Ile	Ile	
				485					490					495		
Thr	Ser	Gln	Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Gly	Asp	Glu	Thr	Gly	
			500					505					510			
Gln	Ser	Trp	Asp	Leu	Ile	Ser	Thr	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	
		515					520					525				
Ile	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	Asn	
		530				535					540					
Arg	Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly	Ser	Gln	Ala	Ser	Ser	Glu	
545					550					555					560	
Gly	Ser	Gly	Met	Leu	Asp	Val	Leu	His	Cys	Val	Leu	Ile	Asp	Ser	Pro	
				565					570					575		

Glu	Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His	Ile	Lys	Val	Ile	Ile	Ser	
			580					585					590			
Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys	Val	Leu	Asp	Val	Leu	Cys	
		595					600					605				
Ser	Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val	Arg	Ser	Ser	Gln	Asn	Asn	
	610					615					620					
Ile	Cys	Asp	Phe	Leu	Leu	Pro	Gly	Lys	Asn	Leu	Leu	Leu	Gln	Thr	Leu	
625					630					635					640	
Leu	Val	Asp	His	Val	Ala	Ser	Ile	Arg	Pro	Asn	Ile	Phe	Val	Gly	Arg	
				645					650					655		
Val	Asp	Gly	Ser	Ser	Met	Tyr	Gln	Lys	Trp	Tyr	Phe	Glu	Val	Thr	Met	
			660					665					670			
Asp	His	Ile	Glu	Gln	Thr	Thr	His	Met	Met	Pro	His	Leu	Arg	Ile	Gly	
		675					680					685				
Trp	Ala	Asn	Thr	Ser	Gly	Tyr	Val	Pro	Tyr	Pro	Gly	Gly	Gly	Lys	Lys	
	690					695					700					
Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu	Tyr	Ser	Phe	Gly	Phe	Asp	
705					710					715					720	
Gly	Ala	Phe	Leu	Trp	Thr	Gly	Gly	Arg	Lys	Thr	Leu	Val	Val	Asp	Ala	
				725					730					735		
Leu	Pro	Glu	Glu	Pro	Phe	Ile	Arg	Lys	Gly	Asp	Val	Ile	Gly	Val	Ala	
			740					745					750			
Ile	Asp	Leu	Ser	Val	Pro	Ile	Ile	Thr	Phe	Thr	Phe	Asn	Gly	Val	Lys	
		755					760					765				
Val	Arg	Gly	Ser	Phe	Arg	Asp	Phe	Asn	Leu	Asp	Gly	Met	Phe	Phe	Pro	
	770					775					780					
Val	Met	Ser	Cys	Ser	Ser	Lys	Leu	Ser	Cys	Arg	Phe	Leu	Phe	Gly	Gly	
785					790					795					800	
Asp	His	Gly	Arg	Leu	Lys	Phe	Ala	Pro	Pro	Met	Gly	Phe	Ser	Ala	Leu	
				805					810					815		
Val	Gln	Cys	Leu	Met	Pro	Gln	Gln	Ile	Leu	Ser	Leu	Asp	Pro	Cys	Phe	
			820					825					830			
Tyr	Phe	Gly	Asn	Leu	Ala	Lys	Asn	Val	Leu	Ala	Gly	Pro	Trp	Leu	Ile	
		835					840					845				
Glu	Asp	Asp	Thr	Ala	Phe	Val	Pro	Lys	Pro	Val	Asp	Thr	Thr	Gly	Val	
	850					855					860					
Thr	Leu	Pro	Ser	Ser	Val	Asp	Gln	Ile	Lys	Glu	Lys	Leu	Ala	Glu	Asn	
865					870					875					880	
Ile	His	Glu	Met	Trp	Ala	Leu	Asn	Lys	Ile	Glu	Ala	Gly	Trp	Ser	Trp	
				885					890					895		

Gly	Glu	His	Arg	Asp	Asp	Tyr	His	Arg	Ile	His	Pro	Cys	Leu	Thr	His	900	905	910	
Phe	Glu	Lys	Leu	Pro	Ala	Ala	Glu	Lys	Arg	Tyr	Asp	Asn	Gln	Leu	Ala	915	920	925	
Val	Gln	Thr	Leu	Lys	Thr	Ile	Ile	Ser	Leu	Gly	Tyr	Tyr	Ile	Thr	Met	930	935	940	
Asp	Lys	Pro	Pro	Ala	Arg	Ile	Arg	Pro	Val	Arg	Leu	Pro	Asn	Glu	Ile	945	950	955	960
Phe	Met	Gln	Gly	Asn	Gly	Tyr	Lys	Pro	Ala	Pro	Leu	Asp	Leu	Ser	Ala	965	970	975	
Val	Thr	Leu	Thr	Pro	Lys	Leu	Glu	Glu	Leu	Val	Asp	Gln	Leu	Ala	Glu	980	985	990	
Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	Ile	Gln	Gln	Gly	Trp	Thr	995	1000	1005	
Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Glu	Asn	His	Arg	Ser	Pro	His	Leu	1010	1015	1020		
Val	Pro	Tyr	Ala	Lys	Val	Asp	Glu	Ala	Ile	Lys	Lys	Ala	Asn	Arg	1025	1030	1035		
Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr	Leu	Leu	Val	Tyr	Gly	Tyr	1040	1045	1050		
Val	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gly	Thr	Glu	Ala	Leu	Leu	Ala	1055	1060	1065		
Glu	Ala	Gln	Arg	Leu	Lys	Phe	Ala	Gly	Phe	Arg	Thr	Tyr	Arg	Val	1070	1075	1080		
Glu	Arg	Asn	Tyr	Ala	Val	Thr	Ser	Gly	Lys	Trp	Tyr	Phe	Glu	Phe	1085	1090	1095		
Glu	Val	Leu	Thr	Ser	Gly	Pro	Met	Arg	Val	Gly	Trp	Ala	Arg	Ala	1100	1105	1110		
Asp	Cys	Tyr	Pro	Gly	Ala	Met	Leu	Gly	Ser	Glu	Asp	Thr	Ser	Trp	1115	1120	1125		
Ala	Phe	Asp	Gly	His	Asn	Glu	Glu	Lys	Val	Tyr	Gly	Gly	Val	Ser	1130	1135	1140		
Glu	Ser	Phe	Gly	Lys	Gln	Cys	Gly	Pro	Gly	Asp	Ile	Val	Gly	Val	1145	1150	1155		
Phe	Leu	Asp	Leu	Ala	Asp	His	Thr	Ile	Ser	Phe	Ser	Leu	Asn	Gly	1160	1165	1170		
Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Thr	Phe	Ala	Asp	1175	1180	1185		
Val	Thr	Ala	Glu	Gly	Val	Gly	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly	1190	1195	1200		

Val	Gly	Gln	Lys	Ala	Arg	Leu	Ile	Tyr	Gly	Gln	Asp	Val	Asp	Ser
1205						1210					1215			
Leu	Lys	Phe	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro
1220						1225					1230			
Phe	Cys	Val	Asn	Met	Arg	Arg	Pro	Val	Thr	His	Trp	Tyr	Thr	Lys
1235						1240					1245			
Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Glu	Met	Pro	Asp	Cys	Arg
1250						1255					1260			
Ile	Asp	Val	Thr	Arg	Ile	Pro	Gly	Gly	Ala	Asp	Thr	Pro	Pro	His
1265						1270					1275			
Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn
1280						1285					1290			
Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Thr	Cys	Met	Gly	Glu
1295						1300					1305			
Phe	Ile	Ser	Glu	Gln	Glu	Lys	Ala	Arg	Arg	Trp	Asp	Glu	Ile	Lys
1310						1315					1320			
Asn	Arg	Gln	Tyr	Arg	Leu	Met	Arg	Glu	Ala	Glu	Ile	Ala	Ala	Gln
1325						1330					1335			
Met	Gln	Val	Gln	Thr	Gln	Ala	Ala	His	Met	Asp	His	Met	Leu	Lys
1340						1345					1350			
Gly	Gly	Phe	Asn	Met	Asn	Asp	Ile	Lys	Gly	Leu	Thr	Arg	Asn	Phe
1355						1360					1365			
Asp	Glu	His	Ala	Asp	Ala	Glu	Ala	Asp	His	Met	Met	Arg	Gly	Pro
1370						1375					1380			
Asn	Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Thr	Arg	Asn	Ile	Thr	Phe
1385						1390					1395			
Glu	Thr	Asp	Met	Ser	Ala	Ala	Leu	Asp	Glu	Met	Gln	Arg	Ser	Thr
1400						1405					1410			
Ser	Val	Leu	Asp	Met	Asn	Gly	Leu	Gly	Glu	Glu	Met	Asp	Asp	Lys
1415						1420					1425			
Lys	Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Ser	Lys	Lys	Ser
1430						1435					1440			
Arg	Asp	Gln	Ser	Arg	Glu	Lys	Met	Gly	Ala	Arg	Thr	Leu	Asp	Thr
1445						1450					1455			
Ser	Leu	Glu	Arg	Arg	Asn	Thr	Val	Ala	His	Gly	Arg	Asn	Val	Val
1460						1465					1470			
Asn	Gln	Gln	Met	Thr	Thr	Arg	Ala	Pro	Thr	Leu	Arg	Leu	Asn	Asn
1475						1480					1485			
Ala	Glu	Ile	Pro	Pro	Ser	Pro	Val	Pro	Gln	Gly	Pro	Lys	Gln	Leu
1490						1495					1500			

Ser Gly 1505	Ser Asn Leu Gly Gln 1510	Gln Pro Val Glu Thr 1515	Ser Gly Asp
Glu Met 1520	Phe Asp Ala Glu Cys 1525	Leu Lys Leu Ile Asn 1530	Glu Tyr Phe
Tyr Gly 1535	Val Arg Ile Phe Pro 1540	Gly Gln Asp Pro Thr 1545	His Val Tyr
Val Gly 1550	Trp Val Thr Thr Gln 1555	Tyr His Leu His Ser 1560	Arg Glu Phe
Asn Lys 1565	Asn Lys Val Arg Arg 1570	Gly Ser Val Tyr Ile 1575	Glu Asp Asp
Tyr Glu 1580	Met Ala Ile Glu Arg 1585	Ile Asp Arg Gln Ser 1590	Cys Tyr Val
Val Arg 1595	Ala Asp Glu Leu Phe 1600	Asn Glu Val Thr Gln 1605	Asp Ala Ser
Gly Lys 1610	Gly Ala Ser Gln Gly 1615	Met Phe Val Gly Cys 1620	Phe Val Asp
Thr Ala 1625	Thr Gly Ile Ile Arg 1630	Phe Thr Cys Glu Gly 1635	Lys Asp Thr
Ser His 1640	Arg Trp Met Met Glu 1645	Pro Asp Thr Lys Leu 1650	Phe Pro Ala
Ile Phe 1655	Val Glu Ala Thr Ser 1660	Lys Glu Ile Leu Gln 1665	Ile Glu Leu
Gly Arg 1670	Thr Pro Thr Thr Leu 1675	Pro Leu Ser Ala Ala 1680	Val Leu Pro
Thr Ser 1685	Asp Lys His Ile Asn 1690	Pro Gln Ser Pro Pro 1695	Arg Leu Lys
Val Gln 1700	Cys Leu Arg Pro His 1705	Gln Trp Ala Arg Val 1710	Pro Asn Thr
Ala Leu 1715	Gln Val His Ala Leu 1720	Lys Leu Ser Asp Val 1725	Arg Gly Trp
Ser Met 1730	Leu Cys Glu Asp Pro 1735	Val Ser Met Leu Ala 1740	Leu His Ile
Pro Glu 1745	Glu Asp Arg Cys Ile 1750	Asp Ile Leu Glu Leu 1755	Ile Glu Met
Asp Lys 1760	Leu Leu Ser Phe His 1765	Ala His Ser Leu Thr 1770	Leu Tyr Ala
Ala Leu 1775	Cys Tyr Gln Ser Asn 1780	Tyr Arg Ala Ala His 1785	Ala Leu Cys
Gln His 1790	Val Asp Gln Lys Gln 1795	Leu Leu Tyr Ala Ile 1800	Arg Ser Glu

Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile
	1805					1810					1815			
Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys
	1820					1825					1830			
Asn	Glu	Tyr	Ile	Thr	Pro	Leu	Gly	Ala	Glu	Leu	Lys	Glu	Leu	Tyr
	1835					1840					1845			
Ser	Asp	Glu	Glu	Met	Gln	His	Ser	Leu	Arg	Ser	Leu	Val	Thr	Glu
	1850					1855					1860			
Ser	Val	Arg	Pro	Gln	Leu	Arg	Met	Thr	Glu	Ile	Thr	Pro	Pro	Val
	1865					1870					1875			
Ile	Ala	Thr	Ser	Ser	Met	Pro	Ser	Val	Ser	Ser	Glu	Pro	Ile	Pro
	1880					1885					1890			
Asp	Ile	Asp	Gln	Leu	Tyr	Ser	Pro	Lys	Phe	Pro	Leu	Glu	Val	Val
	1895					1900					1905			
Arg	Gln	Phe	Val	Met	Glu	Ala	Leu	Lys	Asp	Ala	Val	Glu	Ile	Asn
	1910					1915					1920			
Gln	Val	His	Asn	Arg	Asp	Pro	Ile	Gly	Trp	Thr	Asn	Glu	Asn	Leu
	1925					1930					1935			
Phe	Leu	Pro	Leu	Ile	Lys	Leu	Thr	Asp	Arg	Leu	Leu	Leu	Val	Gly
	1940					1945					1950			
Val	Leu	Thr	Asp	Glu	Asp	Val	Gln	Arg	Leu	Leu	Val	Met	Ile	Asp
	1955					1960					1965			
Pro	Glu	Thr	Trp	Asp	Gln	Ala	Phe	Glu	Arg	Glu	Gly	Lys	Asp	Glu
	1970					1975					1980			
His	Arg	Lys	Gly	Leu	Leu	Thr	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys
	1985					1990					1995			
Leu	Gln	Met	Cys	Tyr	Leu	Leu	His	His	Leu	Tyr	Asp	Thr	Gln	Leu
	2000					2005					2010			
Arg	His	Arg	Val	Glu	Ser	Ile	Ile	Ala	Phe	Ser	His	Asp	Phe	Val
	2015					2020					2025			
Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Ile	Glu	Ile	Lys
	2030					2035					2040			
Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Lys	Glu
	2045					2050					2055			
Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Gln	Ile	Leu	Cys	Phe
	2060					2065					2070			
Lys	Asn	Leu	Glu	Pro	Asp	Asp	Gln	Asp	Asn	Cys	Thr	Cys	Gly	Leu
	2075					2080					2085			
Glu	Leu	Arg	Gly	Arg	Leu	Gly	Asp	Phe	His	Asp	Ser	Leu	Met	Gln
	2090					2095					2100			

Lys	Val	Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Asp	Gly	Val	Glu	Gly
2105						2110					2115			
Thr	Ala	Ile	Glu	Glu	Val	Lys	Thr	Gly	Pro	Ile	Thr	Lys	Ile	Tyr
2120						2125					2130			
Asn	Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu
2135						2140					2145			
Val	Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys
2150						2155					2160			
Val	Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile
2165						2170					2175			
Glu	Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg
2180						2185					2190			
Gln	Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr
2195						2200					2205			
Tyr	Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp
2210						2215					2220			
Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser
2225						2230					2235			
Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val
2240						2245					2250			
Asn	Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu
2255						2260					2265			
Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly
2270						2275					2280			
Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val
2285						2290					2295			
Ala	Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met
2300						2305					2310			
Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly
2315						2320					2325			
Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu
2330						2335					2340			
Asp	Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser
2345						2350					2355			
Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu
2360						2365					2370			
Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val
2375						2380					2385			
Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu
2390						2395					2400			

Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg
2405						2410					2415			
Tyr	Leu	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser
2420						2425					2430			
Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg
2435						2440					2445			
Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu
2450						2455					2460			
Phe	Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile	Ser
2465						2470					2475			
Asp	Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala	Gly
2480						2485					2490			
Leu	Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu	Asp
2495						2500					2505			
Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu
2510						2515					2520			
Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile	Glu
2525						2530					2535			
Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser
2540						2545					2550			
Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe
2555						2560					2565			
Thr	Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser	Asp
2570						2575					2580			
Met	Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val	Leu
2585						2590					2595			
Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe	Tyr
2600						2605					2610			
Arg	Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr
2615						2620					2625			
Ile	Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ala
2630						2635					2640			
Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys
2645						2650					2655			
His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu
2660						2665					2670			
Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met
2675						2680					2685			
Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala
2690						2695					2700			

Leu	Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg
2705						2710					2715			
Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val
2720						2725					2730			
Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys	Tyr
2735						2740					2745			
Tyr	Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser	Asp
2750						2755					2760			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2765						2770					2775			
Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2780						2785					2790			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2795						2800					2805			
Ser	Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln	Met
2810						2815					2820			
Gly	Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp	Thr
2825						2830					2835			
Asn	Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln	Lys
2840						2845					2850			
Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu	Glu
2855						2860					2865			
Gly	Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg	Lys
2870						2875					2880			
His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu	Arg
2885						2890					2895			
Glu	Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu	Leu
2900						2905					2910			
Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Ala	Leu
2915						2920					2925			
Asn	His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile	Asn
2930						2935					2940			
Glu	Phe	Gln	Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro
2945						2950					2955			
Val	Asp	Met	Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met
2960						2965					2970			
Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys
2975						2980					2985			
Lys	Asn	Glu	Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln
2990						2995					3000			

Leu Val 3005	Pro Tyr Asp	Leu Leu 3010	Thr Asp Lys Glu Lys 3015	Lys Lys Asp
Arg Glu 3020	Arg Ser Gln Glu Phe 3025	Leu Lys Tyr Met Gln 3030	Tyr Gln Gly	
Tyr Lys 3035	Leu His Lys Pro Ser 3040	Lys Gly Gly Ala Val 3045	Glu Glu Gly	
Gly Ala 3050	Thr Gln Ala Ala Val 3055	Glu Leu Arg Phe Ser 3060	Tyr Ser Leu	
Leu Glu 3065	Lys Leu Ile Gln Tyr 3070	Leu Asp Arg Ala Thr 3075	Ile Asn Met	
Lys Leu 3080	Leu Lys Pro Ser Thr 3085	Thr Phe Ser Arg Arg 3090	Ser Ser Phe	
Lys Thr 3095	Ala Thr Arg Asp Ile 3100	Lys Phe Phe Ser Lys 3105	Val Val Leu	
Pro Leu 3110	Met Glu Lys Tyr Phe 3115	Ser Thr His Arg Asn 3120	Tyr Phe Ile	
Ala Ile 3125	Ala Thr Ala Thr Asn 3130	Asn Ile Gly Ala Ala 3135	Ser Leu Lys	
Glu Lys 3140	Glu Met Val Ala Ser 3145	Ile Phe Cys Lys Leu 3150	Ala Ala Leu	
Leu Arg 3155	Asn Arg Leu Ser Ala 3160	Phe Gly Pro Asp Val 3165	Arg Ile Thr	
Val Arg 3170	Cys Leu Gln Val Leu 3175	Val Lys Gly Ile Asp 3180	Ala Arg Thr	
Leu Thr 3185	Lys Asn Cys Pro Glu 3190	Phe Ile Arg Thr Ser 3195	Met Leu Thr	
Phe Phe 3200	Asn Gln Thr Ser Asp 3205	Asp Leu Gly Asn Thr 3210	Ile Leu Asn	
Leu Gln 3215	Asp Gly Lys Tyr Ser 3220	His Leu Arg Gly Thr 3225	His Leu Lys	
Thr Ser 3230	Thr Ser Leu Gly Tyr 3235	Val Asn Gln Val Val 3240	Leu Pro Val	
Leu Thr 3245	Ala Met Phe Asp His 3250	Leu Ala Ala Cys Asp 3255	Tyr Gly Ser	
Asp Leu 3260	Leu Leu Asp Glu Ile 3265	Gln Val Ala Ser Tyr 3270	Lys Ile Leu	
Ala Ala 3275	Leu Tyr His Leu Gly 3280	Thr Asp Gly Thr Leu 3285	Thr His Asp	
Arg Lys 3290	Tyr Leu Lys Thr Glu 3295	Ile Glu Arg His Arg 3300	Pro Ala Leu	

Gly	Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe
3305						3310					3315			
Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn
3320						3325					3330			
Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys
3335						3340					3345			
Met	Glu	Ser	Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Ala	Glu	Val
3350						3355					3360			
Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His
3365						3370					3375			
Ile	Ile	Asp	Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe
3380						3385					3390			
Trp	Trp	Ser	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn
3395						3400					3405			
His	Val	Thr	Met	Val	Thr	Ala	Asp	His	Met	Asn	Pro	Leu	Leu	Arg
3410						3415					3420			
Asn	Val	Leu	Lys	Met	Ile	Lys	Lys	Asn	Ile	Gly	Asn	Asp	Asn	Ala
3425						3430					3435			
Pro	Trp	Met	Thr	Arg	Ile	Ala	Ala	Tyr	Thr	Gln	Gln	Ile	Ile	Ile
3440						3445					3450			
Asn	Thr	Ser	Glu	Glu	Leu	Leu	Lys	Asp	Pro	Phe	Leu	Pro	Leu	Ala
3455						3460					3465			
Glu	Arg	Val	Lys	Lys	Arg	Thr	Glu	Asn	Met	Leu	His	Lys	Glu	Asp
3470						3475					3480			
Ser	Met	Arg	Gly	Phe	Ile	Lys	Ser	Ala	Thr	Asp	Asp	Thr	Ser	Gln
3485						3490					3495			
Val	Glu	Thr	Gln	Leu	Gln	Glu	Asp	Trp	Asn	Leu	Leu	Val	Arg	Asp
3500						3505					3510			
Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln
3515						3520					3525			
Arg	Asn	His	Trp	Leu	Lys	Asp	Asn	Ile	Pro	Glu	Ala	Glu	Glu	Leu
3530						3535					3540			
Tyr	Asn	His	Val	Ala	Glu	Ile	Phe	Asn	Ile	Trp	Ser	Lys	Ser	Gln
3545						3550					3555			
Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile
3560						3565					3570			
Asp	Asn	Met	Ala	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala
3575						3580					3585			
Ile	Ser	Glu	Gly	Ala	Pro	Ala	Val	Gly	Gly	Lys	Val	Lys	Lys	Lys
3590						3595					3600			

Lys	Lys	Asn	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Val	Gln
3605						3610					3615			
Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly
3620						3625					3630			
Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys
3635						3640					3645			
Lys	Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Asp	Val	Ile	Glu
3650						3655					3660			
Phe	Ala	Arg	Asn	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ser
3665						3670					3675			
Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Lys
3680						3685					3690			
Thr	Glu	Glu	Pro	Val	Asp	Glu	Gln	Ala	Leu	Glu	Lys	Ala	Asn	Val
3695						3700					3705			
Asn	Ser	Asn	Glu	Lys	Gly	Lys	Asp	Lys	Thr	Gln	Glu	Thr	Val	Asp
3710						3715					3720			
Arg	Ile	Val	Ala	Met	Ala	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile
3725						3730					3735			
Asp	His	Pro	Gln	Gln	Gln	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val
3740						3745					3750			
Ser	Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr
3755						3760					3765			
Ser	Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala
3770						3775					3780			
Arg	Ser	Tyr	Tyr	Glu	Gln	Trp	Leu	Gln	Glu	Glu	Asn	Val	Gly	Gln
3785						3790					3795			
Glu	Val	Met	Val	Glu	Asp	Leu	Thr	Gln	Thr	Phe	Glu	Asp	Ser	Glu
3800						3805					3810			
Lys	Ser	Lys	Lys	Glu	Gly	Glu	Glu	Thr	Asp	Ser	Lys	Pro	Asp	Pro
3815						3820					3825			
Leu	Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu
3830						3835					3840			
Arg	Ser	Gly	Ala	Leu	Gln	Glu	Asp	Leu	Leu	Tyr	Met	Ser	Tyr	Ala
3845						3850					3855			
Gln	Ile	Ala	Ala	Lys	Ser	Thr	Gly	Lys	Glu	Glu	Glu	Glu	Gly	Gly
3860						3865					3870			
Asp	Glu	Glu	Gly	Gly	Glu	Gly	Gly	Glu	Glu	Gly	Glu	Gly	Thr	Ser
3875						3880					3885			
Ile	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln
3890						3895					3900			

Ala	Arg	Leu	Ser	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His
3905						3910					3915			
Ile	Ser	Ala	Ser	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Thr	Thr
3920						3925					3930			
Leu	Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile
3935						3940					3945			
Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly
3950						3955					3960			
Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu
3965						3970					3975			
Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly
3980						3985					3990			
Val	Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala
3995						4000					4005			
Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu
4010						4015					4020			
Gly	His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly
4025						4030					4035			
Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu
4040						4045					4050			
Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser
4055						4060					4065			
Ser	Lys	Glu	Ile	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys
4070						4075					4080			
Ala	Ile	Glu	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Thr	Glu	Val
4085						4090					4095			
Ile	Gln	Gly	Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser
4100						4105					4110			
Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser	His
4115						4120					4125			
Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu
4130						4135					4140			
Lys	Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met	Leu
4145						4150					4155			
Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln
4160						4165					4170			
Met	Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile
4175						4180					4185			
Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Ala	Asp	Leu	Ile	Glu
4190						4195					4200			

Ser	Pro	Ser	Phe	His	Glu	Val	Asp	Met	Lys	Asn	Glu	Gly	Trp	Val
4205						4210					4215			
Thr	Pro	Lys	Asp	Phe	Arg	Glu	Lys	Met	Glu	Gln	Ser	Lys	Asn	Tyr
4220						4225					4230			
Thr	Pro	Glu	Glu	Met	Asp	Phe	Leu	Leu	Ala	Cys	Cys	Glu	Arg	Asn
4235						4240					4245			
His	Glu	Gly	Lys	Ile	Asp	Tyr	Arg	Ala	Phe	Val	Glu	His	Phe	His
4250						4255					4260			
Glu	Pro	Ser	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu	Thr
4265						4270					4275			
Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Ala	Arg	Phe
4280						4285					4290			
Leu	Glu	Thr	Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe	Glu	Pro	Phe	Leu
4295						4300					4305			
Gly	Arg	Ile	Glu	Ile	Leu	Gly	Ser	Ser	Lys	Arg	Ile	Glu	Arg	Val
4310						4315					4320			
Tyr	Phe	Glu	Ile	Lys	Asp	Ser	Asn	Ile	Glu	Gln	Trp	Glu	Lys	Pro
4325						4330					4335			
Gln	Ile	Arg	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr	Ser	Ile	Val	Thr
4340						4345					4350			
Glu	Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe	Val	Asn	Phe	Cys
4355						4360					4365			
Glu	Asp	Ala	Ile	Phe	Glu	Met	Thr	His	Ala	Ser	Gly	Leu	Met	Ala
4370						4375					4380			
Thr	Asp	Asp	Gly	Gly	Gly	Asn	Val	Lys	Arg	Asp	Thr	Ala	Tyr	Ser
4385						4390					4395			
Ser	Tyr	Met	Ser	Glu	Glu	Glu	Glu	Glu	Arg	Ala	Ala	Arg	Asp	Pro
4400						4405					4410			
Ile	Arg	Arg	Thr	Ile	Thr	Ala	Val	Lys	Glu	Gly	Leu	Lys	Phe	Gly
4415						4420					4425			
Val	His	Met	Leu	Ser	Pro	Ala	Asn	Ile	Lys	His	Gln	Ile	Gly	Val
4430						4435					4440			
Met	Gln	Thr	Lys	Ser	Ile	Pro	Glu	Leu	Ile	Val	Gly	Phe	Phe	Lys
4445						4450					4455			
Ile	Ile	Phe	Tyr	Ile	Phe	Tyr	Tyr	Thr	Gly	Tyr	Ala	His	Phe	Cys
4460						4465					4470			
Val	Val	Arg	Tyr	Ile	Phe	Gly	Ile	Leu	Leu	Asn	Leu	Met	Arg	Gly
4475						4480					4485			
Pro	Ala	Pro	Glu	Gln	Glu	Glu	Glu	Pro	Val	Val	Glu	Glu	Glu	Thr
4490						4495					4500			

Phe	Gly	Arg	Ala	Leu	Pro	Pro	Leu	Pro	Leu	Glu	Glu	Pro	Pro	Gly
4505						4510					4515			
Thr	Val	Gln	Ala	Phe	Gly	Leu	Asp	Ile	Asn	Lys	Glu	Glu	Asn	Gly
4520						4525					4530			
Met	Tyr	Lys	Val	Val	Val	His	Glu	Ser	Pro	Ala	Asn	Ser	Ser	Met
4535						4540					4545			
Glu	Glu	Gly	Gly	Glu	Ser	Ser	Pro	Glu	Asp	Gly	Ala	Ala	Ala	Ser
4550						4555					4560			
Gly	Glu	Leu	Val	Glu	Gly	Glu	Pro	His	Gln	Glu	Pro	Ile	Ser	Ile
4565						4570					4575			
Val	Asp	Leu	Leu	Gly	Gly	Glu	Ala	Ala	Lys	Lys	Ala	Ala	Gln	Glu
4580						4585					4590			
Arg	Gln	Glu	Ala	Gln	Lys	Ala	Gln	Glu	Ala	Ala	Met	Ala	Ser	Ile
4595						4600					4605			
Glu	Ala	Glu	Ala	Lys	Lys	Ser	Ser	Ser	Ala	Pro	Gln	Glu	Thr	Pro
4610						4615					4620			
Ala	Val	His	Gln	Ile	Asp	Phe	Ser	Gln	Tyr	Thr	His	Arg	Ala	Val
4625						4630					4635			
Ser	Phe	Leu	Ala	Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val	Ala	Leu
4640						4645					4650			
Val	Leu	Ala	Phe	Ser	Ile	Asn	Phe	Met	Leu	Leu	Phe	Tyr	Lys	Val
4655						4660					4665			
Thr	Ser	Phe	Thr	Glu	Glu	Ala	Asp	Ser	Ser	Ala	Glu	Glu	Glu	Leu
4670						4675					4680			
Ile	Leu	Gly	Ser	Gly	Ser	Gly	Gly	Gly	Ala	Asp	Ile	Thr	Gly	Ser
4685						4690					4695			
Gly	Phe	Gly	Gly	Ser	Gly	Asp	Gly	Gly	Ser	Gly	Asp	Gly	Glu	Met
4700						4705					4710			
Glu	Asp	Glu	Ile	Pro	Glu	Leu	Val	His	Val	Asp	Glu	Asp	Phe	Phe
4715						4720					4725			
Tyr	Met	Glu	His	Val	Leu	Arg	Ile	Ala	Ala	Cys	Leu	His	Ser	Leu
4730						4735					4740			
Val	Ser	Leu	Ala	Met	Leu	Ile	Ala	Tyr	Tyr	His	Leu	Lys	Val	Pro
4745						4750					4755			
Leu	Ala	Ile	Phe	Lys	Arg	Glu	Lys	Glu	Ile	Ala	Arg	Arg	Leu	Glu
4760						4765					4770			
Phe	Glu	Gly	Leu	Phe	Ile	Ala	Glu	Gln	Pro	Glu	Asp	Asp	Asp	Phe
4775						4780					4785			
Lys	Ser	His	Trp	Asp	Lys	Leu	Val	Ile	Ser	Ala	Lys	Ser	Phe	Pro
4790						4795					4800			

Val	Asn	Tyr	Trp	Asp	Lys	Phe	Val	Lys	Lys	Lys	Val	Arg	Gln	Lys
4805						4810					4815			
Tyr	Ser	Glu	Thr	Tyr	Asp	Phe	Asp	Ser	Ile	Ser	Asn	Leu	Leu	Gly
4820						4825					4830			
Met	Glu	Lys	Ser	Thr	Phe	Ala	Ala	Gln	Glu	Ser	Glu	Glu	Thr	Gly
4835						4840					4845			
Ile	Phe	Lys	Tyr	Ile	Met	Asn	Ile	Asp	Trp	Arg	Tyr	Gln	Val	Trp
4850						4855					4860			
Lys	Ala	Gly	Val	Thr	Phe	Thr	Asp	Asn	Ala	Phe	Leu	Tyr	Ser	Leu
4865						4870					4875			
Trp	Tyr	Phe	Ser	Phe	Ser	Val	Met	Gly	Asn	Phe	Asn	Asn	Phe	Phe
4880						4885					4890			
Phe	Ala	Ala	His	Leu	Leu	Asp	Val	Ala	Val	Gly	Phe	Lys	Thr	Leu
4895						4900					4905			
Arg	Thr	Ile	Leu	Gln	Ser	Val	Thr	His	Asn	Gly	Lys	Gln	Leu	Val
4910						4915					4920			
Leu	Thr	Val	Met	Leu	Leu	Thr	Ile	Ile	Val	Tyr	Ile	Tyr	Thr	Val
4925						4930					4935			
Ile	Ala	Phe	Asn	Phe	Phe	Arg	Lys	Phe	Tyr	Ile	Gln	Glu	Glu	Asp
4940						4945					4950			
Glu	Glu	Val	Asp	Lys	Lys	Cys	His	Asp	Met	Leu	Thr	Cys	Phe	Val
4955						4960					4965			
Phe	His	Leu	Tyr	Lys	Gly	Val	Arg	Ala	Gly	Gly	Gly	Ile	Gly	Asp
4970						4975					4980			
Glu	Ile	Gly	Asp	Pro	Asp	Gly	Asp	Asp	Tyr	Glu	Val	Tyr	Arg	Ile
4985						4990					4995			
Ile	Phe	Asp	Ile	Thr	Phe	Phe	Phe	Phe	Val	Ile	Ile	Ile	Leu	Leu
5000						5005					5010			
Ala	Ile	Ile	Gln	Gly	Leu	Ile	Ile	Asp	Ala	Phe	Gly	Glu	Leu	Arg
5015						5020					5025			
Asp	Gln	Leu	Glu	Ser	Val	Lys	Asp	Asn	Met	Glu	Ser	Asn	Cys	Phe
5030						5035					5040			
Ile	Cys	Gly	Met	Gly	Lys	Asp	Phe	Phe	Asp	Ile	Val	Pro	His	Gly
5045						5050					5055			
Phe	Asp	Thr	His	Val	Gln	Lys	Glu	His	Asn	Leu	Ala	Asn	Tyr	Met
5060						5065					5070			
Phe	Phe	Leu	Met	His	Leu	Ile	Asn	Lys	Pro	Asp	Thr	Glu	Tyr	Thr
5075						5080					5085			
Gly	Gln	Glu	Thr	Tyr	Val	Trp	Asn	Met	Tyr	Gln	Gln	Arg	Ser	Trp
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Glu Leu Ser Gly Gly Gly Gly Gly Gly
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<400> 123
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 Arg Thr Glu Asp Met Val Thr Leu Ser Cys Thr Ala Thr Gly Glu Arg
 20 25 30
 Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu
 35 40 45
 Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60
 Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80
 Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95
 Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110
 Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
 115 120 125
 Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
 130 135 140
 Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
 145 150 155 160
 Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
 165 170 175
 Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
 180 185 190
 Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
 195 200 205
 Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly
 210 215 220
 Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Gly Arg Glu Ala Gly
 225 230 235 240

Gln	Asn	Ile	Val	Ile	Tyr	Glu	Gly	Gly	Val	Val	Met	Ala	Gln	Ala	Arg	
				245					250						255	
Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	Lys	Trp	Thr	Gly	Gly	Phe	
			260					265					270			
Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	His	Ile	Thr	Thr	Gly	Arg	
		275					280					285				
Tyr	Leu	Gly	Val	Asn	Asp	Ser	Asn	Glu	Leu	Ile	Leu	Val	Lys	Lys	Glu	
	290					295					300					
Glu	Ala	Ser	Ile	Ala	Thr	Thr	Thr	Phe	Ser	Trp	Gln	Glu	Lys	Asp	Asp	
305					310				315						320	
Glu	Lys	Lys	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	Ser	Pro	
			325						330					335		
Ile	Ile	Lys	Tyr	Gly	Asp	Thr	Thr	Val	Ile	Val	Gln	His	Cys	Glu	Thr	
		340						345					350			
Ser	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	Val	
	355						360					365				
Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	Met	
	370					375					380					
Asp	Asp	Cys	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Lys	Thr	
385					390				395						400	
Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Gln	Phe	Ile	Thr	
				405					410					415		
Ala	Leu	Glu	Thr	Leu	Gln	Ser	Asn	Arg	Arg	His	Ser	Ile	Phe	Phe	Gln	
			420					425					430			
Lys	Val	Asn	Leu	Asn	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	Asn	
		435					440					445				
Tyr	Phe	Ser	Gln	Pro	Glu	Asp	Asp	Met	Glu	His	Glu	Glu	Lys	Gln	Asn	
	450					455					460					
Arg	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	Glu	Gly	
465					470					475					480	
Val	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Ile	Ile	Thr	
				485					490					495		
Ser	Gln	Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Gly	Asp	Glu	Thr	Gly	Gln	
			500					505					510			
Ser	Trp	Asp	Leu	Ile	Ser	Thr	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	Ile	
		515					520					525				
Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	Asn	Arg	
	530					535					540					
Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly	Ser	Gln	Ala	Ser	Ser	Glu	Gly	
545					550					555					560	

Ser Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser Pro Glu
 565 570 575
 Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile Ser Leu
 580 585 590
 Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu Cys Ser
 595 600 605
 Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn Ile
 610 615 620
 Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr Leu Leu
 625 630 635 640
 Val Asp His Val Ala Ser Ile Arg Pro Asn Ile Phe Val Gly Arg Val
 645 650 655
 Asp Gly Ser Ser Met Tyr Gln Lys Trp Tyr Phe Glu Val Thr Met Asp
 660 665 670
 His Ile Glu Gln Thr Thr His Met Met Pro His Leu Arg Ile Gly Trp
 675 680 685
 Ala Asn Thr Ser Gly Tyr Val Pro Tyr Pro Gly Gly Gly Lys Lys Trp
 690 695 700
 Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Phe Gly Phe Asp Gly
 705 710 715 720
 Ala Phe Leu Trp Thr Gly Gly Arg Lys Thr Leu Val Val Asp Ala Leu
 725 730 735
 Pro Glu Glu Pro Phe Ile Arg Lys Gly Asp Val Ile Gly Val Ala Ile
 740 745 750
 Asp Leu Ser Val Pro Ile Ile Thr Phe Thr Phe Asn Gly Val Lys Val
 755 760 765
 Arg Gly Ser Phe Arg Asp Phe Asn Leu Asp Gly Met Phe Phe Pro Val
 770 775 780
 Met Ser Cys Ser Ser Lys Leu Ser Cys Arg Phe Leu Phe Gly Gly Asp
 785 790 795 800
 His Gly Arg Leu Lys Phe Ala Pro Pro Met Gly Phe Ser Ala Leu Val
 805 810 815
 Gln Cys Leu Met Pro Gln Gln Ile Leu Ser Leu Asp Pro Cys Phe Tyr
 820 825 830
 Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile Glu
 835 840 845
 Asp Asp Thr `Ala Phe Val Pro Lys Pro Val Asp Thr Thr Gly Val Thr
 850 855 860
 Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn Ile
 865 870 875 880

His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp Gly
 885 890 895
 Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His Phe
 900 905 910
 Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala Val
 915 920 925
 Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met Asp
 930 935 940
 Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile Phe
 945 950 955 960
 Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala Val
 965 970 975
 Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu Asn
 980 985 990
 Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp Thr Tyr
 995 1000 1005
 Gly Leu Asn Glu Asp Ser Glu Asn His Arg Ser Pro His Leu Val
 1010 1015 1020
 Pro Tyr Ala Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg Asp
 1025 1030 1035
 Thr Ala Ser Glu Thr Ser Ala Asn Ala Pro Gly Leu Arg Ile Cys
 1040 1045 1050
 Leu Gly Ser Ser Asp Gly Arg Arg Asn Gly Gly Thr Ser Gly Arg
 1055 1060 1065
 Gly Thr Thr Pro Gln Val Arg Arg Ile Pro Thr Tyr Arg Val Glu
 1070 1075 1080
 Arg Asn Tyr Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe Glu
 1085 1090 1095
 Val Leu Thr Ser Gly Pro Met Arg Val Gly Trp Ala Arg Ala Asp
 1100 1105 1110
 Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp Ala
 1115 1120 1125
 Phe Asp Gly His Asn Val Thr Lys Met His Ala Gly Ser Ile Glu
 1130 1135 1140
 His Phe Gly Val Arg Tyr Glu Ala Gly Asp Val Ile Gly Cys Phe
 1145 1150 1155
 Ile Asp Val Lys Glu Gln Thr Ile Ser Phe Ser Leu Asn Gly Glu
 1160 1165 1170
 Leu Leu Met Asp Ala Leu Gly Gly Glu Thr Thr Phe Ala Asp Val
 1175 1180 1185

Thr	Ala	Glu	Gly	Val	Gly	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly	Val
1190						1195					1200			
Gly	Gln	Lys	Ala	Arg	Leu	Ile	Tyr	Gly	Gln	Asp	Val	Asp	Ser	Leu
1205						1210					1215			
Lys	Phe	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	Phe
1220						1225					1230			
Cys	Val	Asn	Met	Arg	Arg	Pro	Val	Thr	His	Trp	Tyr	Thr	Lys	Asp
1235						1240					1245			
Gln	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Glu	Met	Pro	Asp	Cys	Arg	Ile
1250						1255					1260			
Asp	Val	Thr	Arg	Ile	Pro	Gly	Gly	Ala	Asp	Thr	Pro	Pro	His	Leu
1265						1270					1275			
Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn	Trp
1280						1285					1290			
Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Thr	Cys	Met	Gly	Glu	Phe
1295						1300					1305			
Ile	Ser	Glu	Gln	Glu	Lys	Ala	Arg	Arg	Trp	Asp	Glu	Ile	Lys	Asn
1310						1315					1320			
Arg	Gln	Tyr	Arg	Leu	Met	Arg	Glu	Ala	Glu	Ile	Ala	Ala	Gln	Met
1325						1330					1335			
Gln	Val	Gln	Thr	Gln	Ala	Ala	His	Met	Asp	His	Met	Leu	Lys	Gly
1340						1345					1350			
Gly	Phe	Asn	Met	Asn	Asp	Ile	Lys	Gly	Leu	Thr	Arg	Asn	Phe	Asp
1355						1360					1365			
Glu	His	Ala	Asp	Ala	Glu	Ala	Asp	His	Met	Met	Arg	Gly	Pro	Asn
1370						1375					1380			
Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Thr	Arg	Asn	Ile	Thr	Phe	Glu
1385						1390					1395			
Thr	Asp	Met	Ser	Ala	Ala	Leu	Asp	Glu	Met	Gln	Arg	Ser	Thr	Ser
1400						1405					1410			
Val	Leu	Asp	Met	Asn	Gly	Leu	Gly	Glu	Glu	Met	Asp	Asp	Lys	Lys
1415						1420					1425			
Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Ser	Lys	Lys	Ser	Arg
1430						1435					1440			
Asp	Gln	Ser	Arg	Glu	Lys	Met	Gly	Ala	Arg	Thr	Leu	Asp	Thr	Ser
1445						1450					1455			
Leu	Glu	Arg	Arg	Asn	Thr	Val	Ala	His	Gly	Arg	Asn	Val	Val	Asn
1460						1465					1470			
Gln	Gln	Met	Thr	Thr	Arg	Ala	Pro	Thr	Leu	Arg	Leu	Asn	Asn	Ala
1475						1480					1485			

Glu Ile	Pro Pro Ser Pro Val	Pro Gln Gly Pro Lys	Gln Leu Ser
1490	1495	1500	
Gly Ser	Asn Leu Gly Gln Gln	Pro Val Glu Thr Ser	Gly Asp Glu
1505	1510	1515	
Met Phe	Asp Ala Glu Cys Leu	Lys Leu Ile Asn Glu	Tyr Phe Tyr
1520	1525	1530	
Gly Val	Arg Ile Phe Pro Gly	Gln Asp Pro Thr His	Val Tyr Val
1535	1540	1545	
Gly Trp	Val Thr Thr Gln Tyr	His Leu His Ser Arg	Glu Phe Asn
1550	1555	1560	
Lys Asn	Lys Val Arg Arg Gly	Ser Val Tyr Ile Glu	Asp Asp Tyr
1565	1570	1575	
Glu Met	Ala Ile Glu Arg Ile	Asp Arg Gln Ser Cys	Tyr Val Val
1580	1585	1590	
Arg Ala	Asp Glu Leu Phe Asn	Glu Val Thr Gln Asp	Ala Ser Gly
1595	1600	1605	
Lys Gly	Ala Ser Gln Gly Met	Phe Val Gly Cys Phe	Val Asp Thr
1610	1615	1620	
Ala Thr	Gly Ile Ile Arg Phe	Thr Cys Glu Gly Lys	Asp Thr Ser
1625	1630	1635	
His Arg	Trp Met Met Glu Pro	Asp Thr Lys Leu Phe	Pro Ala Ile
1640	1645	1650	
Phe Val	Glu Ala Thr Ser Lys	Glu Ile Leu Gln Ile	Glu Leu Gly
1655	1660	1665	
Arg Thr	Pro Thr Thr Leu Pro	Leu Ser Ala Ala Val	Leu Pro Thr
1670	1675	1680	
Ser Asp	Lys His Ile Asn Pro	Gln Ser Pro Pro Arg	Leu Lys Val
1685	1690	1695	
Gln Cys	Leu Arg Pro His Gln	Trp Ala Arg Val Pro	Asn Thr Ala
1700	1705	1710	
Leu Gln	Val His Ala Leu Lys	Leu Ser Asp Val Arg	Gly Trp Ser
1715	1720	1725	
Met Leu	Cys Glu Asp Pro Val	Ser Met Leu Ala Leu	His Ile Pro
1730	1735	1740	
Glu Glu	Asp Arg Cys Ile Asp	Ile Leu Glu Leu Ile	Glu Met Asp
1745	1750	1755	
Lys Leu	Leu Ser Phe His Ala	His Ser Leu Thr Leu	Tyr Ala Ala
1760	1765	1770	
Leu Cys	Tyr Gln Ser Asn Tyr	Arg Ala Ala His Ala	Leu Cys Gln
1775	1780	1785	

His Val Asp Gln Lys Gln Leu	Leu Tyr Ala Ile Arg Ser Glu Tyr
1790	1795 1800
Met Ser Gly Pro Leu Arg Gln	Gly Phe Tyr Asp Leu Leu Ile Ala
1805	1810 1815
Leu His Leu Glu Ser His Ala	Thr Thr Met Glu Val Cys Lys Asn
1820	1825 1830
Glu Tyr Ile Thr Pro Leu Gly	Ala Glu Leu Lys Glu Leu Tyr Ser
1835	1840 1845
Asp Glu Glu Met Gln His Ser	Leu Arg Ser Leu Val Thr Glu Ser
1850	1855 1860
Val Arg Pro Gln Leu Arg Met	Thr Glu Ile Thr Pro Pro Val Ile
1865	1870 1875
Ala Thr Ser Ser Met Pro Ser	Val Ser Ser Glu Pro Ile Pro Asp
1880	1885 1890
Ile Asp Gln Leu Tyr Ser Pro	Lys Phe Pro Leu Glu Val Val Arg
1895	1900 1905
Gln Phe Val Met Glu Ala Leu	Lys Asp Ala Val Glu Ile Asn Gln
1910	1915 1920
Val His Asn Arg Asp Pro Ile	Gly Trp Thr Asn Glu Asn Leu Phe
1925	1930 1935
Leu Pro Leu Ile Lys Leu Thr	Asp Arg Leu Leu Leu Val Gly Val
1940	1945 1950
Leu Thr Asp Glu Asp Val Gln	Arg Leu Leu Val Met Ile Asp Pro
1955	1960 1965
Glu Thr Trp Asp Gln Ala Phe	Glu Arg Glu Gly Lys Asp Glu His
1970	1975 1980
Arg Lys Gly Leu Leu Thr Met	Lys Met Ala Glu Gly Ala Lys Leu
1985	1990 1995
Gln Met Cys Tyr Leu Leu His	His Leu Tyr Asp Thr Gln Leu Arg
2000	2005 2010
His Arg Val Glu Ser Ile Ile	Ala Phe Ser His Asp Phe Val Gly
2015	2020 2025
Asp Leu Gln Thr Asp Gln Leu	Arg Arg Tyr Ile Glu Ile Lys Gln
2030	2035 2040
Ser Asp Leu Pro Ser Ala Val	Ala Ala Lys Lys Thr Lys Glu Phe
2045	2050 2055
Arg Cys Pro Pro Arg Glu Gln	Met Asn Gln Ile Leu Cys Phe Lys
2060	2065 2070
Asn Leu Glu Pro Asp Asp Gln	Asp Asn Cys Thr Cys Gly Leu Glu
2075	2080 2085

Leu	Arg	Gly	Arg	Leu	Gly	Asp	Phe	His	Asp	Ser	Leu	Met	Gln	Lys
2090						2095					2100			
Val	Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Asp	Gly	Val	Glu	Gly	Thr
2105						2110					2115			
Ala	Ile	Glu	Glu	Val	Lys	Thr	Gly	Pro	Ile	Thr	Lys	Ile	Tyr	Asn
2120						2125					2130			
Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu	Val
2135						2140					2145			
Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys	Val
2150						2155					2160			
Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile	Glu
2165						2170					2175			
Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg	Gln
2180						2185					2190			
Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr	Tyr
2195						2200					2205			
Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp	Val
2210						2215					2220			
Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln
2225						2230					2235			
Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val	Asn
2240						2245					2250			
Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu	Arg
2255						2260					2265			
Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Ile	Gly	Arg
2270						2275					2280			
Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val	Ala
2285						2290					2295			
Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met	Val
2300						2305					2310			
Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly	Arg
2315						2320					2325			
Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu	Asp
2330						2335					2340			
Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr
2345						2350					2355			
Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu
2360						2365					2370			
Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val	Tyr
2375						2380					2385			

Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu	Lys
2390						2395					2400			
Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg	Tyr
2405						2410					2415			
Leu	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser	Val
2420						2425					2430			
Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg	Pro
2435						2440					2445			
Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu	Phe
2450						2455					2460			
Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile	Ser	Asp
2465						2470					2475			
Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala	Gly	Leu
2480						2485					2490			
Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu	Asp	Tyr
2495						2500					2505			
Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu	Val
2510						2515					2520			
Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile	Glu	Gln
2525						2530					2535			
Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ser	Leu	Arg	Ser	Leu
2540						2545					2550			
Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe	Thr
2555						2560					2565			
Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser	Asp	Met
2570						2575					2580			
Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val	Leu	Phe
2585						2590					2595			
Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe	Tyr	Arg
2600						2605					2610			
Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr	Ile
2615						2620					2625			
Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ala	Met
2630						2635					2640			
Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys	His
2645						2650					2655			
Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu	Asp
2660						2665					2670			
Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met	Leu
2675						2680					2685			

Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu
2690						2695					2700			
Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys
2705						2710					2715			
Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala
2720						2725					2730			
Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys	Tyr	Tyr
2735						2740					2745			
Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser	Asp	Glu
2750						2755					2760			
Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp	Ser
2765						2770					2775			
Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala	Leu
2780						2785					2790			
Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr	Ser
2795						2800					2805			
Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln	Met	Gly
2810						2815					2820			
Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp	Thr	Asn
2825						2830					2835			
Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln	Lys	Phe
2840						2845					2850			
Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu	Glu	Gly
2855						2860					2865			
Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg	Lys	His
2870						2875					2880			
Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu	Arg	Glu
2885						2890					2895			
Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu	Leu	Ala
2900						2905					2910			
Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Pro	Leu	Asn
2915						2920					2925			
His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile	Asn	Glu
2930						2935					2940			
Phe	Gln	Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro	Val
2945						2950					2955			
Asp	Met	Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met	Ala
2960						2965					2970			
Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys	Lys
2975						2980					2985			

Asn	Glu	Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln	Leu
2990						2995					3000			
Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp	Arg
3005						3010					3015			
Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Met	Gln	Tyr	Gln	Gly	Tyr
3020						3025					3030			
Lys	Leu	His	Lys	Pro	Ser	Lys	Gly	Gly	Ala	Val	Glu	Glu	Gly	Gly
3035						3040					3045			
Ala	Thr	Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu	Leu
3050						3055					3060			
Glu	Lys	Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys
3065						3070					3075			
Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys
3080						3085					3090			
Thr	Ala	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu	Pro
3095						3100					3105			
Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala
3110						3115					3120			
Ile	Ala	Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys	Glu
3125						3130					3135			
Lys	Glu	Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu	Leu
3140						3145					3150			
Arg	Asn	Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr	Val
3155						3160					3165			
Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr	Leu
3170						3175					3180			
Thr	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe
3185						3190					3195			
Phe	Asn	Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn	Gln
3200						3205					3210			
Gln	Asp	Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys	Thr
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Ser	Thr	Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val	Leu
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Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser	Asp
3245						3250					3255			
Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu	Ala
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Ala	Leu	Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp	Arg
3275						3280					3285			

Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu	Gly
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Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe	Leu
3305						3310					3315			
Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn	Arg
3320						3325					3330			
Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys	Met
3335						3340					3345			
Glu	Ser	Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Gly	Glu	Val	Asp
3350						3355					3360			
Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His	Ile
3365						3370					3375			
Ile	Asp	Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe	Trp
3380						3385					3390			
Trp	Ser	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn	His
3395						3400					3405			
Val	Thr	Met	Val	Thr	Ala	Asp	His	Met	Asn	Pro	Leu	Leu	Arg	Asn
3410						3415					3420			
Val	Leu	Lys	Met	Ile	Lys	Lys	Asn	Ile	Gly	Asn	Asp	Asn	Ala	Pro
3425						3430					3435			
Trp	Met	Thr	Arg	Ile	Ala	Ala	Tyr	Thr	Gln	Gln	Ile	Ile	Ile	Asn
3440						3445					3450			
Thr	Ser	Glu	Glu	Leu	Leu	Lys	Asp	Pro	Phe	Leu	Pro	Leu	Ala	Glu
3455						3460					3465			
Arg	Val	Lys	Lys	Arg	Thr	Glu	Asn	Met	Leu	His	Lys	Glu	Asp	Ser
3470						3475					3480			
Met	Arg	Gly	Phe	Ile	Lys	Ser	Ala	Thr	Asp	Asp	Thr	Ser	Gln	Val
3485						3490					3495			
Glu	Thr	Gln	Leu	Gln	Glu	Asp	Trp	Asn	Leu	Leu	Val	Arg	Asp	Ile
3500						3505					3510			
Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln	Arg
3515						3520					3525			
Asn	His	Trp	Leu	Lys	Asp	Asn	Ile	Pro	Glu	Ala	Glu	Glu	Leu	Tyr
3530						3535					3540			
Asn	His	Val	Ala	Glu	Ile	Phe	Asn	Ile	Trp	Ser	Lys	Ser	Gln	Tyr
3545						3550					3555			
Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile	Asp
3560						3565					3570			
Asn	Met	Ala	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala	Ile
3575						3580					3585			

Ser	Glu	Gly	Ala	Pro	Ala	Val	Gly	Gly	Lys	Val	Lys	Lys	Lys	Lys
3590						3595					3600			
Lys	Asn	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Val	Gln	Ala
3605						3610					3615			
Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly	Leu
3620						3625					3630			
Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys	Lys
3635						3640					3645			
Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Asp	Val	Ile	Glu	Phe
3650						3655					3660			
Ala	Arg	Asn	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ser	Asp
3665						3670					3675			
Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Lys	Thr
3680						3685					3690			
Glu	Glu	Pro	Val	Asp	Glu	Gln	Ala	Leu	Glu	Lys	Ala	Asn	Val	Asn
3695						3700					3705			
Ser	Asn	Glu	Lys	Gly	Lys	Asp	Lys	Thr	Gln	Glu	Thr	Val	Asp	Arg
3710						3715					3720			
Ile	Val	Ala	Met	Ala	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile	Asp
3725						3730					3735			
His	Pro	Gln	Gln	Gln	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val	Ser
3740						3745					3750			
Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr	Ser
3755						3760					3765			
Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala	Arg
3770						3775					3780			
Ser	Tyr	Tyr	Glu	Gln	Trp	Leu	Gln	Glu	Glu	Asn	Val	Gly	Gln	Glu
3785						3790					3795			
Val	Met	Val	Glu	Asp	Leu	Thr	Gln	Thr	Phe	Glu	Asp	Ser	Glu	Lys
3800						3805					3810			
Ser	Lys	Lys	Glu	Gly	Glu	Glu	Thr	Asp	Ser	Lys	Pro	Asp	Pro	Leu
3815						3820					3825			
Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu	Arg
3830						3835					3840			
Ser	Gly	Ala	Leu	Gln	Glu	Asp	Leu	Leu	Tyr	Met	Ser	Tyr	Ala	Gln
3845						3850					3855			
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3860						3865					3870			
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3875						3880					3885			

His Glu Gln Glu Met Glu Lys	Gln Lys Leu Leu Phe	His Gln Ala
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Arg Leu Ser Asn Arg Gly Val	Ala Glu Met Val Leu	Leu His Ile
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Ser Ala Ser Lys Gly Ile Pro	Ser Glu Met Val Met	Thr Thr Leu
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Asn Leu Gly Ile Ala Ile Leu	Arg Gly Gly Asn Ile	Asp Ile Gln
3935	3940	3945
Met Gly Met Leu Asn His Leu	Lys Glu Lys Lys Asp	Val Gly Phe
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Phe Thr Ser Ile Ala Gly Leu	Met Asn Ser Cys Ser	Val Leu Asp
3965	3970	3975
Leu Asp Ala Phe Glu Arg Asn	Thr Lys Ala Glu Gly	Leu Gly Val
3980	3985	3990
Gly Ser Glu Gly Ala Ala Gly	Glu Lys Asn Met His	Asp Ala Glu
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Phe Thr Cys Ala Leu Phe Arg	Phe Ile Gln Leu Thr	Cys Glu Gly
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His Asn Leu Glu Trp Gln Asn	Tyr Leu Arg Thr Gln	Ala Gly Asn
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Thr Thr Thr Val Asn Val Val	Ile Cys Thr Val Asp	Tyr Leu Leu
4040	4045	4050
Arg Leu Gln Glu Ser Ile Met	Asp Phe Tyr Trp His	Tyr Ser Ser
4055	4060	4065
Lys Glu Ile Ile Asp Pro Ala	Gly Lys Ala Asn Phe	Phe Lys Ala
4070	4075	4080
Ile Glu Val Ala Ser Gln Val	Phe Asn Thr Leu Ile	Glu Val Ile
4085	4090	4095
Gln Gly Pro Cys Thr Leu Asn	Gln Gln Ala Leu Ala	His Ser Arg
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Leu Trp Asp Ala Val Gly Gly	Phe Leu Phe Leu Phe	Ser His Met
4115	4120	4125
Gln Asp Lys Leu Ser Lys His	Ser Ser Gln Val Asp	Leu Leu Lys
4130	4135	4140
Glu Leu Leu Asn Leu Gln Lys	Asp Met Ile Thr Met	Met Leu Ser
4145	4150	4155
Met Leu Glu Gly Asn Val Val	Asn Gly Thr Ile Gly	Lys Gln Met
4160	4165	4170
Val Asp Thr Leu Val Glu Ser	Ala Ser Asn Val Glu	Leu Ile Leu
4175	4180	4185

Lys Tyr	Phe Asp Met Phe	Leu	Lys Leu Ala Asp	Leu	Ile Glu Ser
4190		4195		4200	
Pro Ser	Phe His Glu Val	Asp	Met Lys Asn Glu	Gly	Trp Val Thr
4205		4210		4215	
Pro Lys	Asp Phe Arg Glu	Lys	Met Glu Gln Ser	Lys	Asn Tyr Thr
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Pro Glu	Glu Met Asp Phe	Leu	Leu Ala Cys Cys	Glu	Arg Asn His
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Glu Gly	Lys Ile Asp Tyr	Arg	Ala Phe Val Glu	His	Phe His Glu
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Pro Ser	Lys Glu Ile Gly	Phe	Asn Leu Ala Val	Leu	Leu Thr Asn
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Leu Ser	Glu His Met Pro	Asn	Glu Pro Arg Leu	Ala	Arg Phe Leu
4280		4285		4290	
Glu Thr	Ala Gly Ser Val	Leu	Asn Tyr Phe Glu	Pro	Phe Leu Gly
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Arg Ile	Glu Ile Leu Gly	Ser	Ser Lys Arg Ile	Glu	Arg Val Tyr
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Phe Glu	Ile Lys Asp Ser	Asn	Ile Glu Gln Trp	Glu	Lys Pro Gln
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Ile Arg	Glu Ser Lys Arg	Ala	Phe Phe Tyr Ser	Ile	Val Thr Glu
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Gly Gly	Asp Lys Glu Lys	Leu	Glu Ala Phe Val	Asn	Phe Cys Glu
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Asp Asp	Gly Gly Gly Asn	Val	Lys Arg Asp Thr	Ala	Tyr Ser Ser
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Tyr Met	Ser Glu Glu Glu	Glu	Glu Arg Ala Ala	Arg	Asp Pro Ile
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Arg Arg	Thr Ile Thr Ala	Val	Lys Glu Gly Leu	Lys	Phe Gly Val
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His Met	Leu Ser Pro Ala	Asn	Ile Lys His Gln	Ile	Gly Val Met
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Gln Thr	Lys Ser Ile Pro	Glu	Leu Ile Val Gly	Phe	Phe Lys Ile
4445		4450		4455	
Ile Phe	Tyr Ile Phe Tyr	Tyr	Thr Gly Tyr Ala	His	Phe Cys Val
4460		4465		4470	
Val Arg	Tyr Ile Phe Gly	Ile	Leu Leu Asn Leu	Met	Arg Gly Pro
4475		4480		4485	

Ala	Pro	Glu	Gln	Glu	Glu	Glu	Pro	Val	Val	Glu	Glu	Glu	Thr	Phe
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Gly	Arg	Ala	Leu	Pro	Pro	Leu	Pro	Leu	Glu	Glu	Pro	Pro	Gly	Thr
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Val	Gln	Ala	Phe	Gly	Leu	Asp	Ile	Asn	Lys	Glu	Glu	Asn	Gly	Met
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Tyr	Lys	Val	Val	Val	His	Glu	Ser	Pro	Ala	Asn	Ser	Ser	Met	Glu
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Glu	Leu	Val	Glu	Gly	Glu	Pro	His	Gln	Glu	Pro	Ile	Ser	Ile	Val
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Asp	Leu	Leu	Gly	Gly	Glu	Ala	Ala	Lys	Lys	Ala	Ala	Gln	Glu	Arg
4580						4585					4590			
Gln	Glu	Ala	Gln	Lys	Ala	Gln	Glu	Ala	Ala	Met	Ala	Ser	Ile	Glu
4595						4600					4605			
Ala	Glu	Ala	Lys	Lys	Ser	Ser	Ser	Ala	Pro	Gln	Glu	Thr	Pro	Ala
4610						4615					4620			
Val	His	Gln	Ile	Asp	Phe	Ser	Gln	Tyr	Thr	His	Arg	Ala	Val	Ser
4625						4630					4635			
Phe	Leu	Ala	Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val	Ala	Leu	Val
4640						4645					4650			
Leu	Ala	Phe	Ser	Ile	Asn	Phe	Met	Leu	Leu	Phe	Tyr	Lys	Val	Thr
4655						4660					4665			
Ser	Phe	Thr	Glu	Glu	Ala	Asp	Ser	Ser	Ala	Glu	Glu	Glu	Leu	Ile
4670						4675					4680			
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4685						4690					4695			
Phe	Gly	Gly	Ser	Gly	Asp	Gly	Gly	Ser	Gly	Asp	Gly	Glu	Met	Glu
4700						4705					4710			
Asp	Glu	Ile	Pro	Glu	Leu	Val	His	Val	Asp	Glu	Asp	Phe	Phe	Tyr
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Met	Glu	His	Val	Leu	Arg	Ile	Ala	Ala	Cys	Leu	His	Ser	Leu	Val
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4745						4750					4755			
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4775						4780					4785			

Ser	His	Trp	Asp	Lys	Leu	Val	Ile	Ser	Ala	Lys	Ser	Phe	Pro	Val
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Ser	Glu	Thr	Tyr	Asp	Phe	Asp	Ser	Ile	Ser	Asn	Leu	Leu	Gly	Met
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4880						4885					4890			
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Thr	Val	Met	Leu	Leu	Thr	Ile	Ile	Val	Tyr	Ile	Tyr	Thr	Val	Ile
4925						4930					4935			
Ala	Phe	Asn	Phe	Phe	Arg	Lys	Phe	Tyr	Ile	Gln	Glu	Glu	Asp	Glu
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Glu	Val	Asp	Lys	Lys	Cys	His	Asp	Met	Leu	Thr	Cys	Phe	Val	Phe
4955						4960					4965			
His	Leu	Tyr	Lys	Gly	Val	Arg	Ala	Gly	Gly	Gly	Ile	Gly	Asp	Glu
4970						4975					4980			
Ile	Gly	Asp	Pro	Asp	Gly	Asp	Asp	Tyr	Glu	Val	Tyr	Arg	Ile	Ile
4985						4990					4995			
Phe	Asp	Ile	Thr	Phe	Phe	Phe	Phe	Val	Ile	Ile	Ile	Leu	Leu	Ala
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Ile	Ile	Gln	Gly	Leu	Ile	Ile	Asp	Ala	Phe	Gly	Glu	Leu	Arg	Asp
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Gln	Leu	Glu	Ser	Val	Lys	Asp	Asn	Met	Glu	Ser	Asn	Cys	Phe	Ile
5030						5035					5040			
Cys	Gly	Met	Gly	Lys	Asp	Phe	Phe	Asp	Ile	Val	Pro	His	Gly	Phe
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Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu
 35 40 45

Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60

Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80

Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95

Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110

Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
 115 120 125

Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
 130 135 140

Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
 145 150 155 160

Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
 165 170 175

Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
 180 185 190

Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met Lys
 195 200 205

Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His Gly

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Gly	Asp	Glu	Cys	Leu	Thr	Ile	Pro	Ser	Thr	Trp	Gly	Arg	Glu	Ala	Gly
225						230					235				240
Gln	Asn	Ile	Val	Ile	Tyr	Glu	Gly	Gly	Val	Val	Met	Ala	Gln	Ala	Arg
				245					250					255	
Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	Lys	Trp	Thr	Gly	Gly	Phe
			260					265					270		
Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	His	Ile	Thr	Thr	Gly	Arg
		275					280					285			
Tyr	Leu	Gly	Val	Asn	Asp	Ser	Asn	Glu	Leu	Ile	Leu	Val	Lys	Lys	Glu
	290					295					300				
Glu	Ala	Ser	Ile	Ala	Thr	Thr	Thr	Phe	Ser	Trp	Gln	Glu	Lys	Asp	Asp
305						310					315				320
Glu	Lys	Lys	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	Ser	Pro
				325					330					335	
Ile	Ile	Lys	Tyr	Gly	Asp	Thr	Thr	Val	Ile	Val	Gln	His	Cys	Glu	Thr
			340					345					350		
Ser	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	Val
		355					360					365			
Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	Met
	370					375					380				
Asp	Asp	Cys	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Lys	Thr
385					390					395					400
Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Gln	Phe	Ile	Thr
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Ala	Leu	Glu	Thr	Leu	Gln	Ser	Asn	Arg	Arg	His	Ser	Ile	Phe	Phe	Gln
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Lys	Val	Asn	Leu	Asn	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	Asn
		435					440					445			
Tyr	Phe	Ser	Gln	Pro	Glu	Asp	Asp	Met	Glu	His	Glu	Glu	Lys	Gln	Asn
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Arg	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	Glu	Gly
465					470					475					480
Val	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Ile	Ile	Thr
				485					490					495	
Ser	Gln	Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Gly	Asp	Glu	Thr	Gly	Gln
			500					505					510		
Ser	Trp	Asp	Leu	Ile	Ser	Thr	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	Ala	Ile
		515					520					525			
Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	Asn	Arg

530				535				540							
Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly	Ser	Gln	Ala	Ser	Ser	Glu	Gly
545					550					555					560
Ser	Gly	Met	Leu	Asp	Val	Leu	His	Cys	Val	Leu	Ile	Asp	Ser	Pro	Glu
				565					570					575	
Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His	Ile	Lys	Val	Ile	Ile	Ser	Leu
			580						585					590	
Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys	Val	Leu	Asp	Val	Leu	Cys	Ser
		595					600						605		
Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val	Arg	Ser	Ser	Gln	Asn	Asn	Ile
	610					615					620				
Cys	Asp	Phe	Leu	Leu	Pro	Gly	Lys	Asn	Leu	Leu	Leu	Gln	Thr	Leu	Leu
625					630					635					640
Val	Asp	His	Val	Ala	Ser	Ile	Arg	Pro	Asn	Ile	Phe	Val	Gly	Arg	Val
				645					650					655	
Asp	Gly	Ser	Ser	Met	Tyr	Gln	Lys	Trp	Tyr	Phe	Glu	Val	Thr	Met	Asp
			660						665				670		
His	Ile	Glu	Gln	Thr	Thr	His	Met	Met	Pro	His	Leu	Arg	Ile	Gly	Trp
		675					680						685		
Ala	Asn	Thr	Ser	Gly	Tyr	Val	Pro	Tyr	Pro	Gly	Gly	Gly	Lys	Lys	Trp
		690				695					700				
Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu	Tyr	Ser	Phe	Gly	Phe	Asp	Gly
705					710					715					720
Ala	Phe	Leu	Trp	Thr	Gly	Gly	Arg	Lys	Thr	Leu	Val	Val	Asp	Ala	Leu
				725					730					735	
Pro	Glu	Glu	Pro	Phe	Ile	Arg	Lys	Gly	Asp	Val	Ile	Gly	Val	Ala	Ile
			740						745				750		
Asp	Leu	Ser	Val	Pro	Ile	Ile	Thr	Phe	Thr	Phe	Asn	Gly	Val	Lys	Val
			755				760						765		
Arg	Gly	Ser	Phe	Arg	Asp	Phe	Asn	Leu	Asp	Gly	Met	Phe	Phe	Pro	Val
	770					775					780				
Met	Ser	Cys	Ser	Ser	Lys	Leu	Ser	Cys	Arg	Phe	Leu	Phe	Gly	Gly	Asp
785					790					795					800
His	Gly	Arg	Leu	Lys	Phe	Ala	Pro	Pro	Met	Gly	Phe	Ser	Ala	Leu	Val
				805					810					815	
Gln	Cys	Leu	Met	Pro	Gln	Gln	Ile	Leu	Ser	Leu	Asp	Pro	Cys	Phe	Tyr
			820						825				830		
Phe	Gly	Asn	Leu	Ala	Lys	Asn	Val	Leu	Ala	Gly	Pro	Trp	Leu	Ile	Glu
		835					840						845		
Asp	Asp	Thr	Ala	Phe	Val	Pro	Lys	Pro	Val	Asp	Thr	Thr	Gly	Val	Thr

850	855	860
Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn Ile 865 870 875 880		
His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp Gly 885 890 895		
Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His Phe 900 905 910		
Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala Val 915 920 925		
Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met Asp 930 935 940		
Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile Phe 945 950 955 960		
Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala Val 965 970 975		
Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu Asn 980 985 990		
Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp Thr Tyr 995 1000 1005		
Gly Leu Asn Glu Asp Ser Glu Asn His Arg Ser Pro His Leu Val 1010 1015 1020		
Pro Tyr Ala Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg Asp 1025 1030 1035		
Thr Ala Ser Glu Thr Ser Ala Asn Ala Pro Gly Leu Arg Ile Cys 1040 1045 1050		
Leu Gly Ser Ser Asp Gly Arg Arg Asn Gly Gly Thr Ser Gly Arg 1055 1060 1065		
Gly Thr Thr Pro Gln Val Arg Arg Ile Pro Thr Tyr Arg Val Glu 1070 1075 1080		
Arg Asn Tyr Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe Glu 1085 1090 1095		
Val Leu Thr Ser Gly Pro Met Arg Val Gly Trp Ala Arg Ala Asp 1100 1105 1110		
Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp Ala 1115 1120 1125		
Phe Asp Gly His Asn Glu Glu Lys Val Tyr Gly Gly Val Ser Glu 1130 1135 1140		
Ser Phe Gly Lys Gln Cys Gly Pro Gly Asp Ile Val Gly Val Phe 1145 1150 1155		
Leu Asp Leu Ala Asp His Thr Ile Ser Phe Ser Leu Asn Gly Glu		

1160		1165		1170
Leu Leu Met Asp Ala Leu	Gly Gly Glu Thr Thr	Phe Ala Asp Val		
1175	1180	1185		
Thr Ala Glu Gly Val Gly	Phe Val Pro Ala Cys	Thr Leu Gly Val		
1190	1195	1200		
Gly Gln Lys Ala Arg Leu	Ile Tyr Gly Gln Asp	Val Asp Ser Leu		
1205	1210	1215		
Lys Phe Phe Thr Thr Cys	Gly Leu Gln Glu Gly	Tyr Glu Pro Phe		
1220	1225	1230		
Cys Val Asn Met Arg Arg	Pro Val Thr His Trp	Tyr Thr Lys Asp		
1235	1240	1245		
Gln Pro Ile Phe Glu Asn	Thr Glu Glu Met Pro	Asp Cys Arg Ile		
1250	1255	1260		
Asp Val Thr Arg Ile Pro	Gly Gly Ala Asp Thr	Pro Pro His Leu		
1265	1270	1275		
Lys Ile Ser His Asn Thr	Phe Glu Thr Met Glu	Lys Ala Asn Trp		
1280	1285	1290		
Glu Phe Leu Arg Leu Ser	Leu Pro Val Thr Cys	Met Gly Glu Phe		
1295	1300	1305		
Ile Ser Glu Gln Glu Lys	Ala Arg Arg Trp Asp	Glu Ile Lys Asn		
1310	1315	1320		
Arg Gln Tyr Arg Leu Met	Arg Glu Ala Glu Ile	Ala Ala Gln Met		
1325	1330	1335		
Gln Val Gln Thr Gln Ala	Ala His Met Asp His	Met Leu Lys Gly		
1340	1345	1350		
Gly Phe Asn Met Asn Asp	Ile Lys Gly Leu Thr	Arg Asn Phe Asp		
1355	1360	1365		
Glu His Ala Asp Ala Glu	Ala Asp His Met Met	Arg Gly Pro Asn		
1370	1375	1380		
Arg Pro Pro Arg Lys Gly	Ser Leu Thr Arg Asn	Ile Thr Phe Glu		
1385	1390	1395		
Thr Asp Met Ser Ala Ala	Leu Asp Glu Met Gln	Arg Ser Thr Ser		
1400	1405	1410		
Val Leu Asp Met Asn Gly	Leu Gly Glu Glu Met	Asp Asp Lys Lys		
1415	1420	1425		
Lys Arg Gly Arg Ser Pro	Phe Lys Phe Phe Ser	Lys Lys Ser Arg		
1430	1435	1440		
Asp Gln Ser Arg Glu Lys	Met Gly Ala Arg Thr	Leu Asp Thr Ser		
1445	1450	1455		
Leu Glu Arg Arg Asn Thr	Val Ala His Gly Arg	Asn Val Val Asn		

1460		1465		1470
Gln Gln Met Thr Thr Arg	Ala Pro Thr Leu Arg	Leu Asn Asn Ala		
1475	1480	1485		
Glu Ile Pro Pro Ser Pro	Val Pro Gln Gly Pro	Lys Gln Leu Ser		
1490	1495	1500		
Gly Ser Asn Leu Gly Gln	Gln Pro Val Glu Thr	Ser Gly Asp Glu		
1505	1510	1515		
Met Phe Asp Ala Glu Cys	Leu Lys Leu Ile Asn	Glu Tyr Phe Tyr		
1520	1525	1530		
Gly Val Arg Ile Phe Pro	Gly Gln Asp Pro Thr	His Val Tyr Val		
1535	1540	1545		
Gly Trp Val Thr Thr Gln	Tyr His Leu His Ser	Arg Glu Phe Asn		
1550	1555	1560		
Lys Asn Lys Val Arg Arg	Gly Ser Val Tyr Ile	Glu Asp Asp Tyr		
1565	1570	1575		
Glu Met Ala Ile Glu Arg	Ile Asp Arg Gln Ser	Cys Tyr Val Val		
1580	1585	1590		
Arg Ala Asp Glu Leu Phe	Asn Glu Val Thr Gln	Asp Ala Ser Gly		
1595	1600	1605		
Lys Gly Ala Ser Gln Gly	Met Phe Val Gly Cys	Phe Val Asp Thr		
1610	1615	1620		
Ala Thr Gly Ile Ile Arg	Phe Thr Cys Glu Gly	Lys Asp Thr Ser		
1625	1630	1635		
His Arg Trp Met Met Glu	Pro Asp Thr Lys Leu	Phe Pro Ala Ile		
1640	1645	1650		
Phe Val Glu Ala Thr Ser	Lys Glu Ile Leu Gln	Ile Glu Leu Gly		
1655	1660	1665		
Arg Thr Pro Thr Thr Leu	Pro Leu Ser Ala Ala	Val Leu Pro Thr		
1670	1675	1680		
Ser Asp Lys His Ile Asn	Pro Gln Ser Pro Pro	Arg Leu Lys Val		
1685	1690	1695		
Gln Cys Leu Arg Pro His	Gln Trp Ala Arg Val	Pro Asn Thr Ala		
1700	1705	1710		
Leu Gln Val His Ala Leu	Lys Leu Ser Asp Val	Arg Gly Trp Ser		
1715	1720	1725		
Met Leu Cys Glu Asp Pro	Val Ser Met Leu Ala	Leu His Ile Pro		
1730	1735	1740		
Glu Glu Asp Arg Cys Ile	Asp Ile Leu Glu Leu	Ile Glu Met Asp		
1745	1750	1755		
Lys Leu Leu Ser Phe His	Ala His Ser Leu Thr	Leu Tyr Ala Ala		

1760	1765	1770
Leu Cys Tyr Gln Ser Asn 1775	Tyr Arg Ala Ala His 1780	Ala Leu Cys Gln 1785
His Val Asp Gln Lys Gln 1790	Leu Leu Tyr Ala Ile 1795	Arg Ser Glu Tyr 1800
Met Ser Gly Pro Leu Arg 1805	Gln Gly Phe Tyr Asp 1810	Leu Leu Ile Ala 1815
Leu His Leu Glu Ser His 1820	Ala Thr Thr Met Glu 1825	Val Cys Lys Asn 1830
Glu Tyr Ile Thr Pro Leu 1835	Gly Ala Glu Leu Lys 1840	Glu Leu Tyr Ser 1845
Asp Glu Glu Met Gln His 1850	Ser Leu Arg Ser Leu 1855	Val Thr Glu Ser 1860
Val Arg Pro Gln Leu Arg 1865	Met Thr Glu Ile Thr 1870	Pro Pro Val Ile 1875
Ala Thr Ser Ser Met Pro 1880	Ser Val Ser Ser Glu 1885	Pro Ile Pro Asp 1890
Ile Asp Gln Leu Tyr Ser 1895	Pro Lys Phe Pro Leu 1900	Glu Val Val Arg 1905
Gln Phe Val Met Glu Ala 1910	Leu Lys Asp Ala Val 1915	Glu Ile Asn Gln 1920
Val His Asn Arg Asp Pro 1925	Ile Gly Trp Thr Asn 1930	Glu Asn Leu Phe 1935
Leu Pro Leu Ile Lys Leu 1940	Thr Asp Arg Leu Leu 1945	Leu Val Gly Val 1950
Leu Thr Asp Glu Asp Val 1955	Gln Arg Leu Leu Val 1960	Met Ile Asp Pro 1965
Glu Thr Trp Asp Gln Ala 1970	Phe Glu Arg Glu Gly 1975	Lys Asp Glu His 1980
Arg Lys Gly Leu Leu Thr 1985	Met Lys Met Ala Glu 1990	Gly Ala Lys Leu 1995
Gln Met Cys Tyr Leu Leu 2000	His His Leu Tyr Asp 2005	Thr Gln Leu Arg 2010
His Arg Val Glu Ser Ile 2015	Ile Ala Phe Ser His 2020	Asp Phe Val Gly 2025
Asp Leu Gln Thr Asp Gln 2030	Leu Arg Arg Tyr Ile 2035	Glu Ile Lys Gln 2040
Ser Asp Leu Pro Ser Ala 2045	Val Ala Ala Lys Lys 2050	Thr Lys Glu Phe 2055
Arg Cys Pro Pro Arg Glu 2060	Gln Met Asn Gln Ile 2065	Leu Cys Phe Lys 2070

2060					2065					2070				
Asn	Leu	Glu	Pro	Asp	Asp	Gln	Asp	Asn	Cys	Thr	Cys	Gly	Leu	Glu
2075						2080					2085			
Leu	Arg	Gly	Arg	Leu	Gly	Asp	Phe	His	Asp	Ser	Leu	Met	Gln	Lys
2090						2095					2100			
Val	Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Asp	Gly	Val	Glu	Gly	Thr
2105						2110					2115			
Ala	Ile	Glu	Glu	Val	Lys	Thr	Gly	Pro	Ile	Thr	Lys	Ile	Tyr	Asn
2120						2125					2130			
Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu	Val
2135						2140					2145			
Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys	Val
2150						2155					2160			
Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile	Glu
2165						2170					2175			
Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg	Gln
2180						2185					2190			
Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr	Tyr
2195						2200					2205			
Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp	Val
2210						2215					2220			
Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln
2225						2230					2235			
Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val	Asn
2240						2245					2250			
Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu	Arg
2255						2260					2265			
Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Ile	Gly	Arg
2270						2275					2280			
Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val	Ala
2285						2290					2295			
Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met	Val
2300						2305					2310			
Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly	Arg
2315						2320					2325			
Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu	Asp
2330						2335					2340			
Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser	Thr
2345						2350					2355			
Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu	Leu

2360	2365	2370
Ala Leu 2375	Ala Leu Arg Glu His 2380	Tyr Leu Glu Lys Ile 2385
Leu Ser 2390	Arg Cys Gly Leu Gln 2395	Ser Asn Ser Glu Leu 2400
Gly Tyr 2405	Pro Asp Leu Gly Trp 2410	Asp Pro Val Glu Gly 2415
Leu Asp 2420	Phe Leu Arg Tyr Cys 2425	Val Trp Val Asn Gly 2430
Glu Glu 2435	Asn Ala Asn Leu Val 2440	Ile Arg Leu Leu Ile 2445
Glu Cys 2450	Leu Gly Pro Ala Leu 2455	Arg Gly Glu Gly Glu 2460
Arg Ala 2465	Ile Val Glu Ala Asn 2470	Arg Met Ser Glu Arg 2475
Arg Cys 2480	Lys Met Gln Asp Glu 2485	Ala Glu Gly Thr Ile 2490
Asn Phe 2495	Thr His Pro Leu Pro 2500	Glu Gly Glu Glu Asp 2505
Ile Asp 2510	Thr Gly Ala Ala Ile 2515	Leu Asn Phe Tyr Cys 2520
Asp Leu 2525	Leu Gly Arg Cys Ala 2530	Pro Asp Ala Ser Val 2535
Gly Lys 2540	Asn Glu Ser Leu Arg 2545	Ala Arg Ala Ser Leu 2550
Val Pro 2555	Leu Glu Asp Leu Gln 2560	Gly Val Leu Ser Leu 2565
Leu Ser 2570	Gln Thr Ala Pro Gly 2575	Glu Glu Lys Pro Lys 2580
Pro Ser 2585	Gly Leu Leu Pro Asn 2590	Asn Lys Gln Ser Ile 2595
Leu Glu 2600	Arg Val Tyr Gly Ile 2605	Glu Ala Gln Asp Leu 2610
Leu Leu 2615	Glu Asp Ala Phe Leu 2620	Pro Asp Leu Arg Thr 2625
Leu Asp 2630	Lys Ser Asp Gly Ser 2635	Glu Ser Asp Met Ala 2640
Asn Arg 2645	Tyr Ile Gly Asn Ser 2650	Ile Leu Pro Leu Leu 2655
Ser Lys	Phe Tyr Asn Glu Ala	Glu Asn Tyr Ala Ser Leu Leu Asp

2660	2665	2670
Ala Thr Leu His Thr Val Tyr	Arg Leu Ser Lys Asn	Arg Met Leu
2675	2680	2685
Thr Lys Gly Gln Arg Glu Ala	Val Ser Asp Phe Leu	Val Ala Leu
2690	2695	2700
Thr Ser Gln Met Gln Pro Ala	Met Leu Leu Lys Leu	Leu Arg Lys
2705	2710	2715
Leu Thr Val Asp Val Ser Lys	Leu Ser Glu Tyr Thr	Thr Val Ala
2720	2725	2730
Leu Arg Leu Leu Thr Leu His	Phe Asp Arg Cys Ala	Lys Tyr Tyr
2735	2740	2745
Gly Ser Thr Gln Gly Gln Gly	Ser Tyr Gly Ala Ser	Ser Asp Glu
2750	2755	2760
Glu Lys Arg Leu Thr Met Leu	Leu Phe Ser Asn Ile	Phe Asp Ser
2765	2770	2775
Leu Ser Asn Met Asp Tyr Asp	Pro Glu Leu Phe Gly	Lys Ala Leu
2780	2785	2790
Pro Cys Leu Ile Ala Ile Gly	Cys Ala Leu Pro Pro	Asp Tyr Ser
2795	2800	2805
Leu Ser Lys Asn Thr Asp Glu	Asp Tyr Tyr Gly Arg	Gln Met Gly
2810	2815	2820
Ala Pro Asp Gln Pro Gln Tyr	Met Pro Asn Pro Ile	Asp Thr Asn
2825	2830	2835
Asn Val His Leu Asp Asn Asp	Leu Asn Ser Leu Val	Gln Lys Phe
2840	2845	2850
Ser Glu His Tyr His Asp Ala	Trp Ala Ser Arg Arg	Leu Glu Gly
2855	2860	2865
Gly Trp Thr Tyr Gly Asp Ile	Arg Ser Asp Asn Asp	Arg Lys His
2870	2875	2880
Pro Arg Leu Lys Pro Tyr Asn	Met Leu Ser Glu Tyr	Glu Arg Glu
2885	2890	2895
Arg Tyr Arg Asp Pro Val Arg	Glu Cys Leu Lys Gly	Leu Leu Ala
2900	2905	2910
Ile Gly Trp Thr Val Glu His	Ser Glu Val Glu Val	Pro Leu Asn
2915	2920	2925
His Arg Gly Ser Thr Arg Arg	Gln Ser Lys Pro Gln	Ile Asn Glu
2930	2935	2940
Phe Gln Asn Glu Gly Ser Pro	Phe Asn Tyr Asn Pro	His Pro Val
2945	2950	2955
Asp Met Ser Asn Leu Thr Leu	Ser Arg Glu Met Gln	Asn Met Ala

2960					2965					2970				
Glu Arg	Leu Ala	Glu Asn	Ser	His Asp	Ile Trp	Ala	Lys Lys Lys							
2975			2980			2985								
Asn Glu	Glu Leu	Asn Gly	Cys	Gly Gly	Val Ile	His	Pro Gln Leu							
2990			2995			3000								
Val Pro	Tyr Asp	Leu Leu	Thr	Asp Lys	Glu Lys	Lys	Lys Asp Arg							
3005			3010			3015								
Glu Arg	Ser Gln	Glu Phe	Leu	Lys Tyr	Met Gln	Tyr	Gln Gly Tyr							
3020			3025			3030								
Lys Leu	His Lys	Pro Ser	Lys	Gly Gly	Ala Val	Glu	Glu Gly Gly							
3035			3040			3045								
Ala Thr	Gln Ala	Ala Val	Glu	Leu Arg	Phe Ser	Tyr	Ser Leu Leu							
3050			3055			3060								
Glu Lys	Leu Ile	Gln Tyr	Leu	Asp Arg	Ala Thr	Ile	Asn Met Lys							
3065			3070			3075								
Leu Leu	Lys Pro	Ser Thr	Thr	Phe Ser	Arg Arg	Ser	Ser Phe Lys							
3080			3085			3090								
Thr Ala	Thr Arg	Asp Ile	Lys	Phe Phe	Ser Lys	Val	Val Leu Pro							
3095			3100			3105								
Leu Met	Glu Lys	Tyr Phe	Ser	Thr His	Arg Asn	Tyr	Phe Ile Ala							
3110			3115			3120								
Ile Ala	Thr Ala	Thr Asn	Asn	Ile Gly	Ala Ala	Ser	Leu Lys Glu							
3125			3130			3135								
Lys Glu	Met Val	Ala Ser	Ile	Phe Cys	Lys Leu	Ala	Ala Leu Leu							
3140			3145			3150								
Arg Asn	Arg Leu	Ser Ala	Phe	Gly Pro	Asp Val	Arg	Ile Thr Val							
3155			3160			3165								
Arg Cys	Leu Gln	Val Leu	Val	Lys Gly	Ile Asp	Ala	Arg Thr Leu							
3170			3175			3180								
Thr Lys	Asn Cys	Pro Glu	Phe	Ile Arg	Thr Ser	Met	Leu Thr Phe							
3185			3190			3195								
Phe Asn	Gln Thr	Ser Asp	Asp	Leu Gly	Asn Thr	Ile	Leu Asn Gln							
3200			3205			3210								
Gln Asp	Gly Lys	Tyr Ser	His	Leu Arg	Gly Thr	His	Leu Lys Thr							
3215			3220			3225								
Ser Thr	Ser Leu	Gly Tyr	Val	Asn Gln	Val Val	Leu	Pro Val Leu							
3230			3235			3240								
Thr Ala	Met Phe	Asp His	Leu	Ala Ala	Cys Asp	Tyr	Gly Ser Asp							
3245			3250			3255								
Leu Leu	Leu Asp	Glu Ile	Gln	Val Ala	Ser Tyr	Lys	Ile Leu Ala							

3260	3265	3270
Ala Leu Tyr His Leu Gly Thr 3275	Asp Gly Thr Leu Thr 3280	His Asp Arg 3285
Lys Tyr Leu Lys Thr Glu Ile 3290	Glu Arg His Arg 3295	Pro Ala Leu Gly 3300
Ser Cys Leu Gly Ala Tyr Ser 3305	Ser Cys Phe Pro 3310	Val Ala Phe Leu 3315
Glu Pro His Leu Asn Lys His 3320	Asn Gln Tyr Ser 3325	Leu Leu Asn Arg 3330
Ile Ala Asp His Ser Leu Glu 3335	Ala Gln Asp Ile 3340	Met Val Lys Met 3345
Glu Ser Cys Met Pro Asn Leu 3350	Glu Thr Ile Leu 3355	Gly Glu Val Asp 3360
Gln Phe Val Glu Ser Asp Lys 3365	Thr Tyr Asn Asp 3370	Ala Pro His Ile 3375
Ile Asp Val Ile Leu Pro Leu 3380	Leu Cys Ala Tyr 3385	Leu Pro Phe Trp 3390
Trp Ser Gln Gly Pro Asp Asn 3395	Val Ser Pro Thr 3400	Ser Gly Asn His 3405
Val Thr Met Val Thr Ala Asp 3410	His Met Asn Pro 3415	Leu Leu Arg Asn 3420
Val Leu Lys Met Ile Lys Lys 3425	Asn Ile Gly Asn 3430	Asp Asn Ala Pro 3435
Trp Met Thr Arg Ile Ala Ala 3440	Tyr Thr Gln Gln 3445	Ile Ile Ile Asn 3450
Thr Ser Glu Glu Leu Leu Lys 3455	Asp Pro Phe Leu 3460	Pro Leu Ala Glu 3465
Arg Val Lys Lys Arg Thr Glu 3470	Asn Met Leu His 3475	Lys Glu Asp Ser 3480
Met Arg Gly Phe Ile Lys Ser 3485	Ala Thr Asp Asp 3490	Thr Ser Gln Val 3495
Glu Thr Gln Leu Gln Glu Asp 3500	Trp Asn Leu Leu 3505	Val Arg Asp Ile 3510
Tyr Ser Phe Tyr Pro Leu Leu 3515	Ile Lys Tyr Val 3520	Asp Leu Gln Arg 3525
Asn His Trp Leu Lys Asp Asn 3530	Ile Pro Glu Ala 3535	Glu Glu Leu Tyr 3540
Asn His Val Ala Glu Ile Phe 3545	Asn Ile Trp Ser 3550	Lys Ser Gln Tyr 3555
Phe Leu Lys Glu Glu Gln Asn	Phe Ile Ser Ala Asn	Glu Ile Asp

3560						3565						3570			
Asn Met	Ala Leu Ile Met	Pro Thr Ala Thr Arg	Arg Ser Ala Ile												
3575		3580		3585											
Ser Glu	Gly Ala Pro Ala Val	Gly Gly Lys Val Lys	Lys Lys Lys												
3590		3595		3600											
Lys Asn	Arg Asp Lys Lys Arg	Asp Lys Asp Lys Glu	Val Gln Ala												
3605		3610		3615											
Ser Leu	Met Val Ala Cys Leu	Lys Arg Leu Leu Pro	Val Gly Leu												
3620		3625		3630											
Asn Leu	Phe Ala Gly Arg Glu	Gln Glu Leu Val Gln	His Cys Lys												
3635		3640		3645											
Asp Arg	Tyr Leu Lys Lys Met	Pro Glu Tyr Asp Val	Ile Glu Phe												
3650		3655		3660											
Ala Arg	Asn Gln Leu Thr Leu	Pro Asp Lys Leu Asp	Pro Ser Asp												
3665		3670		3675											
Glu Met	Ser Trp Gln His Tyr	Leu Tyr Ser Lys Leu	Gly Lys Thr												
3680		3685		3690											
Glu Glu	Pro Val Asp Glu Gln	Ala Leu Glu Lys Ala	Asn Val Asn												
3695		3700		3705											
Ser Asn	Glu Lys Gly Lys Asp	Lys Thr Gln Glu Thr	Val Asp Arg												
3710		3715		3720											
Ile Val	Ala Met Ala Lys Val	Leu Phe Gly Leu His	Met Ile Asp												
3725		3730		3735											
His Pro	Gln Gln Gln Ser Lys	Asn Val Tyr Arg Ser	Val Val Ser												
3740		3745		3750											
Ile Gln	Arg Lys Arg Ala Val	Ile Ala Cys Phe Arg	Gln Thr Ser												
3755		3760		3765											
Leu His	Ser Leu Pro Arg His	Arg Ala Cys Asn Ile	Phe Ala Arg												
3770		3775		3780											
Ser Tyr	Tyr Glu Gln Trp Leu	Gln Glu Glu Asn Val	Gly Gln Glu												
3785		3790		3795											
Val Met	Val Glu Asp Leu Thr	Gln Thr Phe Glu Asp	Ser Glu Lys												
3800		3805		3810											
Ser Lys	Lys Glu Gly Glu Glu	Thr Asp Ser Lys Pro	Asp Pro Leu												
3815		3820		3825											
Thr Gln	Leu Val Thr Thr Phe	Cys Arg Gly Ala Met	Thr Glu Arg												
3830		3835		3840											
Ser Gly	Ala Leu Gln Glu Asp	Leu Leu Tyr Met Ser	Tyr Ala Gln												
3845		3850		3855											
Ile Ala	Ala Lys Ser Thr Gly	Lys Glu Glu Glu Glu	Gly Gly Asp												

3860					3865					3870				
Glu	Glu	Gly	Gly	Glu	Gly	Gly	Glu	Glu	Gly	Glu	Gly	Thr	Ser	Ile
3875						3880					3885			
His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln	Ala
3890						3895					3900			
Arg	Leu	Ser	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His	Ile
3905						3910					3915			
Ser	Ala	Ser	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Thr	Thr	Leu
3920						3925					3930			
Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile	Gln
3935						3940					3945			
Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly	Phe
3950						3955					3960			
Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu	Asp
3965						3970					3975			
Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly	Val
3980						3985					3990			
Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala	Glu
3995						4000					4005			
Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu	Gly
4010						4015					4020			
His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly	Asn
4025						4030					4035			
Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu	Leu
4040						4045					4050			
Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser	Ser
4055						4060					4065			
Lys	Glu	Ile	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys	Ala
4070						4075					4080			
Ile	Glu	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Ile	Glu	Val	Ile
4085						4090					4095			
Gln	Gly	Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser	Arg
4100						4105					4110			
Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser	His	Met
4115						4120					4125			
Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu	Lys
4130						4135					4140			
Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met	Leu	Ser
4145						4150					4155			
Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln	Met

4160	4165	4170
Val Asp Thr Leu Val Glu Ser	Ala Ser Asn Val Glu	Leu Ile Leu
4175	4180	4185
Lys Tyr Phe Asp Met Phe Leu	Lys Leu Ala Asp Leu	Ile Glu Ser
4190	4195	4200
Pro Ser Phe His Glu Val Asp	Met Lys Asn Glu Gly	Trp Val Thr
4205	4210	4215
Pro Lys Asp Phe Arg Glu Lys	Met Glu Gln Ser Lys	Asn Tyr Thr
4220	4225	4230
Pro Glu Glu Met Asp Phe Leu	Leu Ala Cys Cys Glu	Arg Asn His
4235	4240	4245
Glu Gly Lys Ile Asp Tyr Arg	Ala Phe Val Glu His	Phe His Glu
4250	4255	4260
Pro Ser Lys Glu Ile Gly Phe	Asn Leu Ala Val Leu	Leu Thr Asn
4265	4270	4275
Leu Ser Glu His Met Pro Asn	Glu Pro Arg Leu Ala	Arg Phe Leu
4280	4285	4290
Glu Thr Ala Gly Ser Val Leu	Asn Tyr Phe Glu Pro	Phe Leu Gly
4295	4300	4305
Arg Ile Glu Ile Leu Gly Ser	Ser Lys Arg Ile Glu	Arg Val Tyr
4310	4315	4320
Phe Glu Ile Lys Asp Ser Asn	Ile Glu Gln Trp Glu	Lys Pro Gln
4325	4330	4335
Ile Arg Glu Ser Lys Arg Ala	Phe Phe Tyr Ser Ile	Val Thr Glu
4340	4345	4350
Gly Gly Asp Lys Glu Lys Leu	Glu Ala Phe Val Asn	Phe Cys Glu
4355	4360	4365
Asp Ala Ile Phe Glu Met Thr	His Ala Ser Gly Leu	Met Ala Thr
4370	4375	4380
Asp Asp Gly Gly Gly Asn Val	Lys Arg Asp Thr Ala	Tyr Ser Ser
4385	4390	4395
Tyr Met Ser Glu Glu Glu Glu	Glu Arg Ala Ala Arg	Asp Pro Ile
4400	4405	4410
Arg Arg Thr Ile Thr Ala Val	Lys Glu Gly Leu Lys	Phe Gly Val
4415	4420	4425
His Met Leu Ser Pro Ala Asn	Ile Lys His Gln Ile	Gly Val Met
4430	4435	4440
Gln Thr Lys Ser Ile Pro Glu	Leu Ile Val Gly Phe	Phe Lys Ile
4445	4450	4455
Ile Phe Tyr Ile Phe Tyr Tyr	Thr Gly Tyr Ala His	Phe Cys Val

4460		4465		4470
Val Arg Tyr Ile Phe Gly	Ile Leu Leu Asn Leu Met	Arg Gly Pro		
4475	4480	4485		
Ala Pro Glu Gln Glu Glu	Glu Pro Val Val Glu Glu	Glu Thr Phe		
4490	4495	4500		
Gly Arg Ala Leu Pro Pro	Leu Pro Leu Glu Glu Pro	Pro Gly Thr		
4505	4510	4515		
Val Gln Ala Phe Gly Leu	Asp Ile Asn Lys Glu Glu	Asn Gly Met		
4520	4525	4530		
Tyr Lys Val Val Val His	Glu Ser Pro Ala Asn Ser	Ser Met Glu		
4535	4540	4545		
Glu Gly Gly Glu Ser Ser	Pro Glu Asp Gly Ala Ala	Ala Ser Gly		
4550	4555	4560		
Glu Leu Val Glu Gly Glu	Pro His Gln Glu Pro Ile	Ser Ile Val		
4565	4570	4575		
Asp Leu Leu Gly Gly Glu	Ala Ala Lys Lys Ala Ala	Gln Glu Arg		
4580	4585	4590		
Gln Glu Ala Gln Lys Ala	Gln Glu Ala Ala Met Ala	Ser Ile Glu		
4595	4600	4605		
Ala Glu Ala Lys Lys Ser	Ser Ser Ala Pro Gln Glu	Thr Pro Ala		
4610	4615	4620		
Val His Gln Ile Asp Phe	Ser Gln Tyr Thr His Arg	Ala Val Ser		
4625	4630	4635		
Phe Leu Ala Arg Asn Phe	Tyr Asn Leu Lys Tyr Val	Ala Leu Val		
4640	4645	4650		
Leu Ala Phe Ser Ile Asn	Phe Met Leu Leu Phe Tyr	Lys Val Thr		
4655	4660	4665		
Ser Phe Thr Glu Glu Ala	Asp Ser Ser Ala Glu Glu	Glu Leu Ile		
4670	4675	4680		
Leu Gly Ser Gly Ser Gly	Gly Gly Ala Asp Ile Thr	Gly Ser Gly		
4685	4690	4695		
Phe Gly Gly Ser Gly Asp	Gly Gly Ser Gly Asp Gly	Glu Met Glu		
4700	4705	4710		
Asp Glu Ile Pro Glu Leu	Val His Val Asp Glu Asp	Phe Phe Tyr		
4715	4720	4725		
Met Glu His Val Leu Arg	Ile Ala Ala Cys Leu His	Ser Leu Val		
4730	4735	4740		
Ser Leu Ala Met Leu Ile	Ala Tyr Tyr His Leu Lys	Val Pro Leu		
4745	4750	4755		
Ala Ile Phe Lys Arg Glu	Lys Glu Ile Ala Arg Arg	Leu Glu Phe		

4760						4765						4770				
Glu Gly	Leu Phe Ile Ala	Glu	Gln Pro Glu Asp	Asp	Asp	Asp	Phe	Lys								
4775		4780				4785										
Ser His	Trp Asp Lys Leu	Val	Ile Ser Ala Lys	Ser	Phe	Pro	Val									
4790		4795				4800										
Asn Tyr	Trp Asp Lys Phe	Val	Lys Lys Lys Val	Arg	Gln	Lys	Tyr									
4805		4810				4815										
Ser Glu	Thr Tyr Asp Phe	Asp	Ser Ile Ser Asn	Leu	Leu	Gly	Met									
4820		4825				4830										
Glu Lys	Ser Thr Phe Ala	Ala	Gln Glu Ser Glu	Glu	Thr	Gly	Ile									
4835		4840				4845										
Phe Lys	Tyr Ile Met Asn	Ile	Asp Trp Arg Tyr	Gln	Val	Trp	Lys									
4850		4855				4860										
Ala Gly	Val Thr Phe Thr	Asp	Asn Ala Phe Leu	Tyr	Ser	Leu	Trp									
4865		4870				4875										
Tyr Phe	Ser Phe Ser Val	Met	Gly Asn Phe Asn	Asn	Phe	Phe	Phe									
4880		4885				4890										
Ala Ala	His Leu Leu Asp	Val	Ala Val Gly Phe	Lys	Thr	Leu	Arg									
4895		4900				4905										
Thr Ile	Leu Gln Ser Val	Thr	His Asn Gly Lys	Gln	Leu	Val	Leu									
4910		4915				4920										
Thr Val	Met Leu Leu Thr	Ile	Ile Val Tyr Ile	Tyr	Thr	Val	Ile									
4925		4930				4935										
Ala Phe	Asn Phe Phe Arg	Lys	Phe Tyr Ile Gln	Glu	Glu	Asp	Glu									
4940		4945				4950										
Glu Val	Asp Lys Lys Cys	His	Asp Met Leu Thr	Cys	Phe	Val	Phe									
4955		4960				4965										
His Leu	Tyr Lys Gly Val	Arg	Ala Gly Gly Gly	Ile	Gly	Asp	Glu									
4970		4975				4980										
Ile Gly	Asp Pro Asp Gly	Asp	Asp Tyr Glu Val	Tyr	Arg	Ile	Ile									
4985		4990				4995										
Phe Asp	Ile Thr Phe Phe	Phe	Phe Val Ile Ile	Ile	Leu	Leu	Ala									
5000		5005				5010										
Ile Ile	Gln Gly Leu Ile	Ile	Asp Ala Phe Gly	Glu	Leu	Arg	Asp									
5015		5020				5025										
Gln Leu	Glu Ser Val Lys	Asp	Asn Met Glu Ser	Asn	Cys	Phe	Ile									
5030		5035				5040										
Cys Gly	Met Gly Lys Asp	Phe	Phe Asp Ile Val	Pro	His	Gly	Phe									
5045		5050				5055										
Asp Thr	His Val Gln Lys	Glu	His Asn Leu Ala	Asn	Tyr	Met	Phe									

5060		5065		5070
Phe Leu Met His Leu Ile Asn Lys Pro Asp Thr Glu Tyr Thr Gly				
5075		5080		5085
Gln Glu Thr Tyr Val Trp Asn Met Tyr Gln Gln Arg Ser Trp Asp				
5090		5095		5100
Phe Phe Pro Val Gly Asp Cys Phe Arg Lys Gln Tyr Glu Asp Glu				
5105		5110		5115
Leu Ser Gly Gly Gly Gly Gly Gly Gly				
5120		5125		
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<212>	PRT			
<213>	Drosophila melanogaster			
<220>				
<223>	gi 2160477			
<400>	125			
Met Ala Glu Ala Glu Gly Gly Ser Glu Gln Asp Asp Val Ser Phe Leu				
1	5		10	15
Arg Thr Glu Asp Met Val Thr Leu Ser Cys Thr Ala Thr Gly Glu Arg				
	20		25	30
Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu				
	35		40	45
Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe				
	50		55	60
Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr				
	65		70	75
Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr				
	85		90	95
Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met				
	100		105	110
Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe				
	115		120	125
Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr				
	130		135	140
Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val				
	145		150	155
Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His				
	165		170	175
Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val				
	180		185	190

Thr	His	Trp	Ser	Val	Gln	Pro	Tyr	Gly	Thr	Gly	Ile	Ser	Arg	Met	Lys	195	200	205	
Tyr	Val	Gly	Tyr	Val	Phe	Gly	Gly	Asp	Val	Leu	Arg	Phe	Phe	His	Gly	210	215	220	
Gly	Asp	Glu	Cys	Leu	Thr	Ile	Pro	Ser	Thr	Trp	Gly	Arg	Glu	Ala	Gly	225	230	235	240
Gln	Asn	Ile	Val	Ile	Tyr	Glu	Gly	Gly	Val	Val	Met	Ala	Gln	Ala	Arg	245	250	255	
Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	Lys	Trp	Thr	Gly	Gly	Phe	260	265	270	
Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	His	Ile	Thr	Thr	Gly	Arg	275	280	285	
Tyr	Leu	Gly	Val	Asn	Asp	Ser	Asn	Glu	Leu	Ile	Leu	Val	Lys	Lys	Glu	290	295	300	
Glu	Ala	Ser	Ile	Ala	Thr	Thr	Thr	Phe	Ser	Trp	Gln	Glu	Lys	Asp	Asp	305	310	315	320
Glu	Lys	Lys	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	Ser	Pro	325	330	335	
Ile	Ile	Lys	Tyr	Gly	Asp	Thr	Thr	Val	Ile	Val	Gln	His	Cys	Glu	Thr	340	345	350	
Ser	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	Gly	Val	355	360	365	
Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	Lys	Met	370	375	380	
Asp	Asp	Cys	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	Lys	Thr	385	390	395	400
Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Gln	Phe	Ile	Thr	405	410	415	
Ala	Leu	Glu	Thr	Leu	Gln	Ser	Asn	Arg	Arg	His	Ser	Ile	Phe	Phe	Gln	420	425	430	
Lys	Val	Asn	Leu	Asn	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	Ile	Asn	435	440	445	
Tyr	Phe	Ser	Gln	Pro	Glu	Asp	Asp	Met	Glu	His	Glu	Glu	Lys	Gln	Asn	450	455	460	
Arg	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	Glu	Gly	465	470	475	480
Val	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Ile	Ile	Thr	485	490	495	
Ser	Gln	Gly	Phe	Leu	Ala	Ser	Phe	Leu	Ala	Gly	Asp	Glu	Thr	Gly	Gln	500	505	510	

Ser Trp Asp Leu Ile Ser Thr Tyr Leu Tyr Gln Leu Leu Ala Ala Ile
 515 520 525
 Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser Asn Arg
 530 535 540
 Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala Ser Ser Glu Gly
 545 550 555 560
 Ser Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser Pro Glu
 565 570 575
 Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile Ser Leu
 580 585 590
 Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu Cys Ser
 595 600 605
 Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn Ile
 610 615 620
 Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr Leu Leu
 625 630 635 640
 Val Asp His Val Ala Ser Ile Arg Pro Asn Ile Phe Val Gly Arg Val
 645 650 655
 Asp Gly Ser Ser Met Tyr Gln Lys Trp Tyr Phe Glu Val Thr Met Asp
 660 665 670
 His Ile Glu Gln Thr Thr His Met Met Pro His Leu Arg Ile Gly Trp
 675 680 685
 Ala Asn Thr Ser Gly Tyr Val Pro Tyr Pro Gly Gly Gly Lys Lys Trp
 690 695 700
 Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Phe Gly Phe Asp Gly
 705 710 715 720
 Ala Phe Leu Trp Thr Gly Gly Arg Lys Thr Leu Val Val Asp Ala Leu
 725 730 735
 Pro Glu Glu Pro Phe Ile Arg Lys Gly Asp Val Ile Gly Val Ala Ile
 740 745 750
 Asp Leu Ser Val Pro Ile Ile Thr Phe Thr Phe Asn Gly Val Lys Val
 755 760 765
 Arg Gly Ser Phe Arg Asp Phe Asn Leu Asp Gly Met Phe Phe Pro Val
 770 775 780
 Met Ser Cys Ser Ser Lys Leu Ser Cys Arg Phe Leu Phe Gly Gly Asp
 785 790 795 800
 His Gly Arg Leu Lys Phe Ala Pro Pro Met Gly Phe Ser Ala Leu Val
 805 810 815
 Gln Cys Leu Met Pro Gln Gln Ile Leu Ser Leu Asp Pro Cys Phe Tyr
 820 825 830

Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile Glu
835 840 845
Asp Asp Thr Ala Phe Val Pro Lys Pro Val Asp Thr Thr Gly Val Thr
850 855 860
Leu Pro Ser Ser Val Asp Gln Ile Lys Glu Lys Leu Ala Glu Asn Ile
865 870 875 880
His Glu Met Trp Ala Leu Asn Lys Ile Glu Ala Gly Trp Ser Trp Gly
885 890 895
Glu His Arg Asp Asp Tyr His Arg Ile His Pro Cys Leu Thr His Phe
900 905 910
Glu Lys Leu Pro Ala Ala Glu Lys Arg Tyr Asp Asn Gln Leu Ala Val
915 920 925
Gln Thr Leu Lys Thr Ile Ile Ser Leu Gly Tyr Tyr Ile Thr Met Asp
930 935 940
Lys Pro Pro Ala Arg Ile Arg Pro Val Arg Leu Pro Asn Glu Ile Phe
945 950 955 960
Met Gln Gly Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser Ala Val
965 970 975
Thr Leu Thr Pro Lys Leu Glu Glu Leu Val Asp Gln Leu Ala Glu Asn
980 985 990
Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp Thr Tyr
995 1000 1005
Gly Leu Asn Glu Asp Ser Glu Asn His Arg Ser Pro His Leu Val
1010 1015 1020
Pro Tyr Ala Lys Val Asp Glu Ala Ile Lys Lys Ala Asn Arg Asp
1025 1030 1035
Thr Ala Ser Glu Thr Ser Ala Asn Ala Pro Gly Leu Arg Ile Cys
1040 1045 1050
Leu Gly Ser Ser Asp Gly Arg Arg Asn Gly Gly Thr Ser Gly Arg
1055 1060 1065
Gly Thr Thr Pro Gln Val Arg Arg Ile Pro Thr Tyr Arg Val Glu
1070 1075 1080
Arg Asn Tyr Ala Val Thr Ser Gly Lys Trp Tyr Phe Glu Phe Glu
1085 1090 1095
Val Leu Thr Ser Gly Pro Met Arg Val Gly Trp Ala Arg Ala Asp
1100 1105 1110
Cys Tyr Pro Gly Ala Met Leu Gly Ser Glu Asp Thr Ser Trp Ala
1115 1120 1125
Phe Asp Gly His Asn Glu Glu Lys Val Tyr Gly Gly Val Ser Glu
1130 1135 1140

Ser	Phe	Gly	Lys	Gln	Cys	Gly	Pro	Gly	Asp	Ile	Val	Gly	Val	Phe
1145						1150					1155			
Leu	Asp	Leu	Ala	Asp	His	Thr	Ile	Ser	Phe	Ser	Leu	Asn	Gly	Glu
1160						1165					1170			
Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Thr	Phe	Ala	Asp	Val
1175						1180					1185			
Thr	Ala	Glu	Gly	Val	Gly	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly	Val
1190						1195					1200			
Gly	Gln	Lys	Ala	Arg	Leu	Ile	Tyr	Gly	Gln	Asp	Val	Asp	Ser	Leu
1205						1210					1215			
Lys	Phe	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	Phe
1220						1225					1230			
Cys	Val	Asn	Met	Arg	Arg	Pro	Val	Thr	His	Trp	Tyr	Thr	Lys	Asp
1235						1240					1245			
Gln	Pro	Ile	Phe	Glu	Asn	Thr	Glu	Glu	Met	Pro	Asp	Cys	Arg	Ile
1250						1255					1260			
Asp	Val	Thr	Arg	Ile	Pro	Gly	Gly	Ala	Asp	Thr	Pro	Pro	His	Leu
1265						1270					1275			
Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn	Trp
1280						1285					1290			
Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Thr	Cys	Met	Gly	Glu	Phe
1295						1300					1305			
Ile	Ser	Glu	Gln	Glu	Lys	Ala	Arg	Arg	Trp	Asp	Glu	Ile	Lys	Asn
1310						1315					1320			
Arg	Gln	Tyr	Arg	Leu	Met	Arg	Glu	Ala	Glu	Ile	Ala	Ala	Gln	Met
1325						1330					1335			
Gln	Val	Gln	Thr	Gln	Ala	Ala	His	Met	Asp	His	Met	Leu	Lys	Gly
1340						1345					1350			
Gly	Phe	Asn	Met	Asn	Asp	Ile	Lys	Gly	Leu	Thr	Arg	Asn	Phe	Asp
1355						1360					1365			
Glu	His	Ala	Asp	Ala	Glu	Ala	Asp	His	Met	Met	Arg	Gly	Pro	Asn
1370						1375					1380			
Arg	Pro	Pro	Arg	Lys	Gly	Ser	Leu	Thr	Arg	Asn	Ile	Thr	Phe	Glu
1385						1390					1395			
Thr	Asp	Met	Ser	Ala	Ala	Leu	Asp	Glu	Met	Gln	Arg	Ser	Thr	Ser
1400						1405					1410			
Val	Leu	Asp	Met	Asn	Gly	Leu	Gly	Glu	Glu	Met	Asp	Asp	Lys	Lys
1415						1420					1425			
Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Ser	Lys	Lys	Ser	Arg
1430						1435					1440			

Asp	Gln	Ser	Arg	Glu	Lys	Met	Gly	Ala	Arg	Thr	Leu	Asp	Thr	Ser
1445						1450					1455			
Leu	Glu	Arg	Arg	Asn	Thr	Val	Ala	His	Gly	Arg	Asn	Val	Val	Asn
1460						1465					1470			
Gln	Gln	Met	Thr	Thr	Arg	Ala	Pro	Thr	Leu	Arg	Leu	Asn	Asn	Ala
1475						1480					1485			
Glu	Ile	Pro	Pro	Ser	Pro	Val	Pro	Gln	Gly	Pro	Lys	Gln	Leu	Ser
1490						1495					1500			
Gly	Ser	Asn	Leu	Gly	Gln	Gln	Pro	Val	Glu	Thr	Ser	Gly	Asp	Glu
1505						1510					1515			
Met	Phe	Asp	Ala	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu	Tyr	Phe	Tyr
1520						1525					1530			
Gly	Val	Arg	Ile	Phe	Pro	Gly	Gln	Asp	Pro	Thr	His	Val	Tyr	Val
1535						1540					1545			
Gly	Trp	Val	Thr	Thr	Gln	Tyr	His	Leu	His	Ser	Arg	Glu	Phe	Asn
1550						1555					1560			
Lys	Asn	Lys	Val	Arg	Arg	Gly	Ser	Val	Tyr	Ile	Glu	Asp	Asp	Tyr
1565						1570					1575			
Glu	Met	Ala	Ile	Glu	Arg	Ile	Asp	Arg	Gln	Ser	Cys	Tyr	Val	Val
1580						1585					1590			
Arg	Ala	Asp	Glu	Leu	Phe	Asn	Glu	Val	Thr	Gln	Asp	Ala	Ser	Gly
1595						1600					1605			
Lys	Gly	Ala	Ser	Gln	Gly	Met	Phe	Val	Gly	Cys	Phe	Val	Asp	Thr
1610						1615					1620			
Ala	Thr	Gly	Ile	Ile	Arg	Phe	Thr	Cys	Glu	Gly	Lys	Asp	Thr	Ser
1625						1630					1635			
His	Arg	Trp	Met	Met	Glu	Pro	Asp	Thr	Lys	Leu	Phe	Pro	Ala	Ile
1640						1645					1650			
Phe	Val	Glu	Ala	Thr	Ser	Lys	Glu	Ile	Leu	Gln	Ile	Glu	Leu	Gly
1655						1660					1665			
Arg	Thr	Pro	Thr	Thr	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro	Thr
1670						1675					1680			
Ser	Asp	Lys	His	Ile	Asn	Pro	Gln	Ser	Pro	Pro	Arg	Leu	Lys	Val
1685						1690					1695			
Gln	Cys	Leu	Arg	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Thr	Ala
1700						1705					1710			
Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp	Val	Arg	Gly	Trp	Ser
1715						1720					1725			
Met	Leu	Cys	Glu	Asp	Pro	Val	Ser	Met	Leu	Ala	Leu	His	Ile	Pro
1730						1735					1740			

Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met	Asp
1745						1750					1755			
Lys	Leu	Leu	Ser	Phe	His	Ala	His	Ser	Leu	Thr	Leu	Tyr	Ala	Ala
1760						1765					1770			
Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys	Gln
1775						1780					1785			
His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Arg	Ser	Glu	Tyr
1790						1795					1800			
Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile	Ala
1805						1810					1815			
Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Val	Cys	Lys	Asn
1820						1825					1830			
Glu	Tyr	Ile	Thr	Pro	Leu	Gly	Ala	Glu	Leu	Lys	Glu	Leu	Tyr	Ser
1835						1840					1845			
Asp	Glu	Glu	Met	Gln	His	Ser	Leu	Arg	Ser	Leu	Val	Thr	Glu	Ser
1850						1855					1860			
Val	Arg	Pro	Gln	Leu	Arg	Met	Thr	Glu	Ile	Thr	Glu	Pro	Ile	Pro
1865						1870					1875			
Asp	Ile	Asp	Gln	Leu	Tyr	Ser	Pro	Lys	Phe	Pro	Leu	Glu	Val	Val
1880						1885					1890			
Arg	Gln	Phe	Val	Met	Glu	Ala	Leu	Lys	Asp	Ala	Val	Glu	Ile	Asn
1895						1900					1905			
Gln	Val	His	Asn	Arg	Asp	Pro	Ile	Gly	Trp	Thr	Asn	Glu	Asn	Leu
1910						1915					1920			
Phe	Leu	Pro	Leu	Ile	Lys	Leu	Thr	Asp	Arg	Leu	Leu	Leu	Val	Gly
1925						1930					1935			
Val	Leu	Thr	Asp	Glu	Asp	Val	Gln	Arg	Leu	Leu	Val	Met	Ile	Asp
1940						1945					1950			
Pro	Glu	Thr	Trp	Asp	Gln	Ala	Phe	Glu	Arg	Glu	Gly	Lys	Asp	Glu
1955						1960					1965			
His	Arg	Lys	Gly	Leu	Leu	Thr	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys
1970						1975					1980			
Leu	Gln	Met	Cys	Tyr	Leu	Leu	His	His	Leu	Tyr	Asp	Thr	Gln	Leu
1985						1990					1995			
Arg	His	Arg	Val	Glu	Ser	Ile	Ile	Ala	Phe	Ser	His	Asp	Phe	Val
2000						2005					2010			
Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Ile	Glu	Ile	Lys
2015						2020					2025			
Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Lys	Glu
2030						2035					2040			

Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Gln	Ile	Leu	Cys	Phe
2045						2050					2055			
Lys	Asn	Leu	Glu	Pro	Asp	Asp	Gln	Asp	Asn	Cys	Thr	Cys	Gly	Leu
2060						2065					2070			
Glu	Leu	Arg	Gly	Arg	Leu	Gly	Asp	Phe	His	Asp	Ser	Leu	Met	Gln
2075						2080					2085			
Lys	Val	Ser	Leu	Asn	Ala	Leu	Gln	Glu	Pro	Asp	Gly	Val	Glu	Gly
2090						2095					2100			
Thr	Ala	Ile	Glu	Glu	Val	Lys	Thr	Gly	Pro	Ile	Thr	Lys	Ile	Tyr
2105						2110					2115			
Asn	Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu
2120						2125					2130			
Val	Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys
2135						2140					2145			
Val	Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile
2150						2155					2160			
Glu	Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg
2165						2170					2175			
Gln	Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr
2180						2185					2190			
Tyr	Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp
2195						2200					2205			
Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser
2210						2215					2220			
Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val
2225						2230					2235			
Asn	Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu
2240						2245					2250			
Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Ile	Gly
2255						2260					2265			
Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val
2270						2275					2280			
Ala	Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met
2285						2290					2295			
Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly
2300						2305					2310			
Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu
2315						2320					2325			
Asp	Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser
2330						2335					2340			

Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu
	2345					2350					2355			
Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val
	2360					2365					2370			
Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu
	2375					2380					2385			
Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg
	2390					2395					2400			
Tyr	Leu	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser
	2405					2410					2415			
Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg
	2420					2425					2430			
Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu
	2435					2440					2445			
Phe	Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile	Ser
	2450					2455					2460			
Asp	Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala	Gly
	2465					2470					2475			
Leu	Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu	Asp
	2480					2485					2490			
Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu
	2495					2500					2505			
Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile	Glu
	2510					2515					2520			
Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ser	Leu	Arg	Ser
	2525					2530					2535			
Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe
	2540					2545					2550			
Thr	Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser	Asp
	2555					2560					2565			
Met	Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val	Leu
	2570					2575					2580			
Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe	Tyr
	2585					2590					2595			
Arg	Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr
	2600					2605					2610			
Ile	Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ala
	2615					2620					2625			
Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys
	2630					2635					2640			

His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu
2645						2650					2655			
Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met
2660						2665					2670			
Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala
2675						2680					2685			
Leu	Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg
2690						2695					2700			
Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val
2705						2710					2715			
Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys	Tyr
2720						2725					2730			
Tyr	Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser	Asp
2735						2740					2745			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2750						2755					2760			
Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2765						2770					2775			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2780						2785					2790			
Ser	Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln	Met
2795						2800					2805			
Gly	Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp	Thr
2810						2815					2820			
Asn	Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln	Lys
2825						2830					2835			
Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu	Glu
2840						2845					2850			
Gly	Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg	Lys
2855						2860					2865			
His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu	Arg
2870						2875					2880			
Glu	Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu	Leu
2885						2890					2895			
Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Pro	Leu
2900						2905					2910			
Asn	His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile	Asn
2915						2920					2925			
Glu	Phe	Gln	Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro
2930						2935					2940			

Val	Asp	Met	Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met
2945						2950					2955			
Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys
2960						2965					2970			
Lys	Asn	Glu	Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln
2975						2980					2985			
Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp
2990						2995					3000			
Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Met	Gln	Tyr	Gln	Gly
3005						3010					3015			
Tyr	Lys	Leu	His	Lys	Pro	Ser	Lys	Gly	Gly	Ala	Val	Glu	Glu	Gly
3020						3025					3030			
Gly	Ala	Thr	Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu
3035						3040					3045			
Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met
3050						3055					3060			
Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe
3065						3070					3075			
Lys	Thr	Ala	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu
3080						3085					3090			
Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile
3095						3100					3105			
Ala	Ile	Ala	Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys
3110						3115					3120			
Glu	Lys	Glu	Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu
3125						3130					3135			
Leu	Arg	Asn	Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr
3140						3145					3150			
Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr
3155						3160					3165			
Leu	Thr	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr
3170						3175					3180			
Phe	Phe	Asn	Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn
3185						3190					3195			
Gln	Gln	Asp	Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys
3200						3205					3210			
Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val
3215						3220					3225			
Leu	Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser
3230						3235					3240			

Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu
3245						3250					3255			
Ala	Ala	Leu	Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp
3260						3265					3270			
Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu
3275						3280					3285			
Gly	Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe
3290						3295					3300			
Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn
3305						3310					3315			
Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys
3320						3325					3330			
Met	Glu	Ser	Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Gly	Glu	Val
3335						3340					3345			
Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His
3350						3355					3360			
Ile	Ile	Asp	Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe
3365						3370					3375			
Trp	Trp	Ser	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn
3380						3385					3390			
His	Val	Thr	Met	Val	Thr	Ala	Asp	His	Met	Asn	Pro	Leu	Leu	Arg
3395						3400					3405			
Asn	Val	Leu	Lys	Met	Ile	Lys	Lys	Asn	Ile	Gly	Asn	Asp	Asn	Ala
3410						3415					3420			
Pro	Trp	Met	Thr	Arg	Ile	Ala	Ala	Tyr	Thr	Gln	Gln	Ile	Ile	Ile
3425						3430					3435			
Asn	Thr	Ser	Glu	Glu	Leu	Leu	Lys	Asp	Pro	Phe	Leu	Pro	Leu	Ala
3440						3445					3450			
Glu	Arg	Val	Lys	Lys	Arg	Thr	Glu	Asn	Met	Leu	His	Lys	Glu	Asp
3455						3460					3465			
Ser	Met	Arg	Gly	Phe	Ile	Lys	Ser	Ala	Thr	Asp	Asp	Thr	Ser	Gln
3470						3475					3480			
Val	Glu	Thr	Gln	Leu	Gln	Glu	Asp	Trp	Asn	Leu	Leu	Val	Arg	Asp
3485						3490					3495			
Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln
3500						3505					3510			
Arg	Asn	His	Trp	Leu	Lys	Asp	Asn	Ile	Pro	Glu	Ala	Glu	Glu	Leu
3515						3520					3525			
Tyr	Asn	His	Val	Ala	Glu	Ile	Phe	Asn	Ile	Trp	Ser	Lys	Ser	Gln
3530						3535					3540			

Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile
3545						3550					3555			
Asp	Asn	Met	Ala	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala
3560						3565					3570			
Ile	Ser	Glu	Gly	Ala	Pro	Ala	Val	Gly	Gly	Lys	Val	Lys	Lys	Lys
3575						3580					3585			
Lys	Lys	Asn	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Val	Gln
3590						3595					3600			
Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly
3605						3610					3615			
Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys
3620						3625					3630			
Lys	Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Asp	Val	Ile	Glu
3635						3640					3645			
Phe	Ala	Arg	Asn	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ser
3650						3655					3660			
Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Lys
3665						3670					3675			
Thr	Glu	Glu	Pro	Val	Asp	Glu	Gln	Ala	Leu	Glu	Lys	Ala	Asn	Val
3680						3685					3690			
Asn	Ser	Asn	Glu	Lys	Gly	Lys	Asp	Lys	Thr	Gln	Glu	Thr	Val	Asp
3695						3700					3705			
Arg	Ile	Val	Ala	Met	Ala	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile
3710						3715					3720			
Asp	His	Pro	Gln	Gln	Gln	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val
3725						3730					3735			
Ser	Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr
3740						3745					3750			
Ser	Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala
3755						3760					3765			
Arg	Ser	Tyr	Tyr	Glu	Gln	Trp	Leu	Gln	Glu	Glu	Asn	Val	Gly	Gln
3770						3775					3780			
Glu	Val	Met	Val	Glu	Asp	Leu	Thr	Gln	Thr	Phe	Glu	Asp	Ser	Glu
3785						3790					3795			
Lys	Ser	Lys	Lys	Glu	Gly	Glu	Glu	Thr	Asp	Ser	Lys	Pro	Asp	Pro
3800						3805					3810			
Leu	Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu
3815						3820					3825			
Arg	Ser	Gly	Ala	Leu	Gln	Glu	Asp	Leu	Leu	Tyr	Met	Ser	Tyr	Ala
3830						3835					3840			

Gln	Ile	Ala	Ala	Lys	Ser	Thr	Gly	Lys	Glu	Glu	Glu	Glu	Gly	Gly
3845						3850					3855			
Asp	Glu	Glu	Gly	Gly	Glu	Gly	Gly	Glu	Glu	Gly	Glu	Gly	Thr	Ser
3860						3865					3870			
Ile	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln
3875						3880					3885			
Ala	Arg	Leu	Ser	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His
3890						3895					3900			
Ile	Ser	Ala	Ser	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Thr	Thr
3905						3910					3915			
Leu	Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile
3920						3925					3930			
Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly
3935						3940					3945			
Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu
3950						3955					3960			
Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly
3965						3970					3975			
Val	Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala
3980						3985					3990			
Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu
3995						4000					4005			
Gly	His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly
4010						4015					4020			
Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu
4025						4030					4035			
Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser
4040						4045					4050			
Ser	Lys	Glu	Ile	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys
4055						4060					4065			
Ala	Ile	Glu	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Ile	Glu	Val
4070						4075					4080			
Ile	Gln	Gly	Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser
4085						4090					4095			
Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser	His
4100						4105					4110			
Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu
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<223> gi 2160478

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Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu Glu
 35 40 45

Asn Ile Ala Asp Lys Asn Val Pro Pro Asp Leu Ser Gln Cys Val Phe
 50 55 60

Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val Thr
 65 70 75 80

Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg Thr
 85 90 95

Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His His Asn Ser Asp Met
 100 105 110

Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Asn Asp Lys Leu Ser Phe
 115 120 125

Asp Val Gly Leu Gln Glu His Ser Gln Gly Glu Ala Cys Trp Trp Thr
 130 135 140

Val His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg Val
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Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu His
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Thr Thr Lys Glu Asn Glu Gln Ser Ile Val Asn Ala Ser Phe His Val
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Ser Trp Asp Leu Ile Ser Thr Tyr Leu Tyr Gln Leu Leu Ala Ala Ile
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 Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser Asn Arg
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 Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala Ser Ser Glu Gly
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 Ser Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser Pro Glu
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 Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile Ser Leu
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 Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn Asn Ile
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 Cys Asp Phe Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr Leu Leu
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Phe Gly Asn Leu Ala Lys Asn Val Leu Ala Gly Pro Trp Leu Ile Glu
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Asn	Phe	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Gly	Pro	Lys	Glu
2120						2125					2130			
Val	Glu	Glu	Pro	Glu	Lys	Lys	Thr	Pro	Glu	Glu	Val	Phe	Arg	Lys
2135						2140					2145			
Val	Leu	Ile	Lys	Thr	Ile	Val	Ser	Trp	Ala	Glu	Glu	Ser	Gln	Ile
2150						2155					2160			
Glu	Asn	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Leu	Arg
2165						2170					2175			
Gln	Tyr	Asp	Thr	Val	Gly	Glu	Leu	Val	Arg	Ala	Leu	Glu	Lys	Thr
2180						2185					2190			
Tyr	Val	Ile	Asn	Thr	Arg	Ala	Arg	Asp	Asp	Val	Ala	Glu	Met	Trp
2195						2200					2205			
Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser
2210						2215					2220			
Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val
2225						2230					2235			
Asn	Asn	Ala	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Ile	Leu
2240						2245					2250			
Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Ile	Gly
2255						2260					2265			
Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Pro	Thr	Gln	Ser	Glu	Val
2270						2275					2280			
Ala	Glu	Gly	Ala	Pro	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu	Met
2285						2290					2295			
Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr	Gly
2300						2305					2310			
Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu	Leu
2315						2320					2325			
Asp	Asn	Ala	Asn	Ile	Leu	Leu	Ala	Arg	Pro	Ser	Leu	Arg	Gly	Ser
2330						2335					2340			

Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr	Glu
2345						2350					2355			
Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala	Val
2360						2365					2370			
Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val	Glu
2375						2380					2385			
Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu	Arg
2390						2395					2400			
Tyr	Leu	Asp	Phe	Leu	Arg	Tyr	Cys	Val	Trp	Val	Asn	Gly	Glu	Ser
2405						2410					2415			
Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg	Arg
2420						2425					2430			
Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly	Leu
2435						2440					2445			
Phe	Arg	Ala	Ile	Val	Glu	Ala	Asn	Arg	Met	Ser	Glu	Arg	Ile	Ser
2450						2455					2460			
Asp	Arg	Cys	Lys	Met	Gln	Asp	Glu	Ala	Glu	Gly	Thr	Ile	Ala	Gly
2465						2470					2475			
Leu	Asn	Phe	Thr	His	Pro	Leu	Pro	Glu	Gly	Glu	Glu	Asp	Glu	Asp
2480						2485					2490			
Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu
2495						2500					2505			
Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Ser	Val	Ile	Glu
2510						2515					2520			
Gln	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ser	Leu	Arg	Ser
2525						2530					2535			
Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Lys	Phe
2540						2545					2550			
Thr	Leu	Ser	Gln	Thr	Ala	Pro	Gly	Glu	Glu	Lys	Pro	Lys	Ser	Asp
2555						2560					2565			
Met	Pro	Ser	Gly	Leu	Leu	Pro	Asn	Asn	Lys	Gln	Ser	Ile	Val	Leu
2570						2575					2580			
Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Ala	Gln	Asp	Leu	Phe	Tyr
2585						2590					2595			
Arg	Leu	Leu	Glu	Asp	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Thr	Ala	Thr
2600						2605					2610			
Ile	Leu	Asp	Lys	Ser	Asp	Gly	Ser	Glu	Ser	Asp	Met	Ala	Leu	Ala
2615						2620					2625			
Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys
2630						2635					2640			

His	Ser	Lys	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu
2645						2650					2655			
Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met
2660						2665					2670			
Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala
2675						2680					2685			
Leu	Thr	Ser	Gln	Met	Gln	Pro	Ala	Met	Leu	Leu	Lys	Leu	Leu	Arg
2690						2695					2700			
Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val
2705						2710					2715			
Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Phe	Asp	Arg	Cys	Ala	Lys	Tyr
2720						2725					2730			
Tyr	Gly	Ser	Thr	Gln	Gly	Gln	Gly	Ser	Tyr	Gly	Ala	Ser	Ser	Asp
2735						2740					2745			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Leu	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2750						2755					2760			
Ser	Leu	Ser	Asn	Met	Asp	Tyr	Asp	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2765						2770					2775			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2780						2785					2790			
Ser	Leu	Ser	Lys	Asn	Thr	Asp	Glu	Asp	Tyr	Tyr	Gly	Arg	Gln	Met
2795						2800					2805			
Gly	Ala	Pro	Asp	Gln	Pro	Gln	Tyr	Met	Pro	Asn	Pro	Ile	Asp	Thr
2810						2815					2820			
Asn	Asn	Val	His	Leu	Asp	Asn	Asp	Leu	Asn	Ser	Leu	Val	Gln	Lys
2825						2830					2835			
Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Arg	Leu	Glu
2840						2845					2850			
Gly	Gly	Trp	Thr	Tyr	Gly	Asp	Ile	Arg	Ser	Asp	Asn	Asp	Arg	Lys
2855						2860					2865			
His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Ser	Glu	Tyr	Glu	Arg
2870						2875					2880			
Glu	Arg	Tyr	Arg	Asp	Pro	Val	Arg	Glu	Cys	Leu	Lys	Gly	Leu	Leu
2885						2890					2895			
Ala	Ile	Gly	Trp	Thr	Val	Glu	His	Ser	Glu	Val	Glu	Val	Pro	Leu
2900						2905					2910			
Asn	His	Arg	Gly	Ser	Thr	Arg	Arg	Gln	Ser	Lys	Pro	Gln	Ile	Asn
2915						2920					2925			
Glu	Phe	Gln	Asn	Glu	Gly	Ser	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro
2930						2935					2940			

Val	Asp	Met	Ser	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met
2945						2950					2955			
Ala	Glu	Arg	Leu	Ala	Glu	Asn	Ser	His	Asp	Ile	Trp	Ala	Lys	Lys
2960						2965					2970			
Lys	Asn	Glu	Glu	Leu	Asn	Gly	Cys	Gly	Gly	Val	Ile	His	Pro	Gln
2975						2980					2985			
Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp
2990						2995					3000			
Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Met	Gln	Tyr	Gln	Gly
3005						3010					3015			
Tyr	Lys	Leu	His	Lys	Pro	Ser	Lys	Gly	Gly	Ala	Val	Glu	Glu	Gly
3020						3025					3030			
Gly	Ala	Thr	Gln	Ala	Ala	Val	Glu	Leu	Arg	Phe	Ser	Tyr	Ser	Leu
3035						3040					3045			
Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Leu	Asp	Arg	Ala	Thr	Ile	Asn	Met
3050						3055					3060			
Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe
3065						3070					3075			
Lys	Thr	Ala	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu
3080						3085					3090			
Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile
3095						3100					3105			
Ala	Ile	Ala	Thr	Ala	Thr	Asn	Asn	Ile	Gly	Ala	Ala	Ser	Leu	Lys
3110						3115					3120			
Glu	Lys	Glu	Met	Val	Ala	Ser	Ile	Phe	Cys	Lys	Leu	Ala	Ala	Leu
3125						3130					3135			
Leu	Arg	Asn	Arg	Leu	Ser	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr
3140						3145					3150			
Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Arg	Thr
3155						3160					3165			
Leu	Thr	Lys	Asn	Cys	Pro	Glu	Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr
3170						3175					3180			
Phe	Phe	Asn	Gln	Thr	Ser	Asp	Asp	Leu	Gly	Asn	Thr	Ile	Leu	Asn
3185						3190					3195			
Gln	Gln	Asp	Gly	Lys	Tyr	Ser	His	Leu	Arg	Gly	Thr	His	Leu	Lys
3200						3205					3210			
Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Val	Asn	Gln	Val	Val	Leu	Pro	Val
3215						3220					3225			
Leu	Thr	Ala	Met	Phe	Asp	His	Leu	Ala	Ala	Cys	Asp	Tyr	Gly	Ser
3230						3235					3240			

Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val	Ala	Ser	Tyr	Lys	Ile	Leu
3245						3250					3255			
Ala	Ala	Leu	Tyr	His	Leu	Gly	Thr	Asp	Gly	Thr	Leu	Thr	His	Asp
3260						3265					3270			
Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu	Arg	His	Arg	Pro	Ala	Leu
3275						3280					3285			
Gly	Ser	Cys	Leu	Gly	Ala	Tyr	Ser	Ser	Cys	Phe	Pro	Val	Ala	Phe
3290						3295					3300			
Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn	Gln	Tyr	Ser	Leu	Leu	Asn
3305						3310					3315			
Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala	Gln	Asp	Ile	Met	Val	Lys
3320						3325					3330			
Met	Glu	Ser	Cys	Met	Pro	Asn	Leu	Glu	Thr	Ile	Leu	Gly	Glu	Val
3335						3340					3345			
Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr	Tyr	Asn	Asp	Ala	Pro	His
3350						3355					3360			
Ile	Ile	Asp	Val	Ile	Leu	Pro	Leu	Leu	Cys	Ala	Tyr	Leu	Pro	Phe
3365						3370					3375			
Trp	Trp	Ser	Gln	Gly	Pro	Asp	Asn	Val	Ser	Pro	Thr	Ser	Gly	Asn
3380						3385					3390			
His	Val	Thr	Met	Val	Thr	Ala	Asp	His	Met	Asn	Pro	Leu	Leu	Arg
3395						3400					3405			
Asn	Val	Leu	Lys	Met	Ile	Lys	Lys	Asn	Ile	Gly	Asn	Asp	Asn	Ala
3410						3415					3420			
Pro	Trp	Met	Thr	Arg	Ile	Ala	Ala	Tyr	Thr	Gln	Gln	Ile	Ile	Ile
3425						3430					3435			
Asn	Thr	Ser	Glu	Glu	Leu	Leu	Lys	Asp	Pro	Phe	Leu	Pro	Leu	Ala
3440						3445					3450			
Glu	Arg	Val	Lys	Lys	Arg	Thr	Glu	Asn	Met	Leu	His	Lys	Glu	Asp
3455						3460					3465			
Ser	Met	Arg	Gly	Phe	Ile	Lys	Ser	Ala	Thr	Asp	Asp	Thr	Ser	Gln
3470						3475					3480			
Val	Glu	Thr	Gln	Leu	Gln	Glu	Asp	Trp	Asn	Leu	Leu	Val	Arg	Asp
3485						3490					3495			
Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile	Lys	Tyr	Val	Asp	Leu	Gln
3500						3505					3510			
Arg	Asn	His	Trp	Leu	Lys	Asp	Asn	Ile	Pro	Glu	Ala	Glu	Glu	Leu
3515						3520					3525			
Tyr	Asn	His	Val	Ala	Glu	Ile	Phe	Asn	Ile	Trp	Ser	Lys	Ser	Gln
3530						3535					3540			

Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	Ile	Ser	Ala	Asn	Glu	Ile
3545						3550					3555			
Asp	Asn	Met	Ala	Leu	Ile	Met	Pro	Thr	Ala	Thr	Arg	Arg	Ser	Ala
3560						3565					3570			
Ile	Ser	Glu	Gly	Ala	Pro	Ala	Val	Gly	Gly	Lys	Val	Lys	Lys	Lys
3575						3580					3585			
Lys	Lys	Asn	Arg	Asp	Lys	Lys	Arg	Asp	Lys	Asp	Lys	Glu	Val	Gln
3590						3595					3600			
Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg	Leu	Leu	Pro	Val	Gly
3605						3610					3615			
Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu	Leu	Val	Gln	His	Cys
3620						3625					3630			
Lys	Asp	Arg	Tyr	Leu	Lys	Lys	Met	Pro	Glu	Tyr	Asp	Val	Ile	Glu
3635						3640					3645			
Phe	Ala	Arg	Asn	Gln	Leu	Thr	Leu	Pro	Asp	Lys	Leu	Asp	Pro	Ser
3650						3655					3660			
Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Lys
3665						3670					3675			
Thr	Glu	Glu	Pro	Val	Asp	Glu	Gln	Ala	Leu	Glu	Lys	Ala	Asn	Val
3680						3685					3690			
Asn	Ser	Asn	Glu	Lys	Gly	Lys	Asp	Lys	Thr	Gln	Glu	Thr	Val	Asp
3695						3700					3705			
Arg	Ile	Val	Ala	Met	Ala	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile
3710						3715					3720			
Asp	His	Pro	Gln	Gln	Gln	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val
3725						3730					3735			
Ser	Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr
3740						3745					3750			
Ser	Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala
3755						3760					3765			
Arg	Ser	Tyr	Tyr	Glu	Gln	Trp	Leu	Gln	Glu	Glu	Asn	Val	Gly	Gln
3770						3775					3780			
Glu	Val	Met	Val	Glu	Asp	Leu	Thr	Gln	Thr	Phe	Glu	Asp	Ser	Glu
3785						3790					3795			
Lys	Ser	Lys	Lys	Glu	Gly	Glu	Glu	Thr	Asp	Ser	Lys	Pro	Asp	Pro
3800						3805					3810			
Leu	Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu
3815						3820					3825			
Arg	Ser	Gly	Ala	Leu	Gln	Glu	Asp	Leu	Leu	Tyr	Met	Ser	Tyr	Ala
3830						3835					3840			

Gln	Ile	Ala	Ala	Lys	Ser	Thr	Gly	Lys	Glu	Glu	Glu	Glu	Gly	Gly
3845						3850					3855			
Asp	Glu	Glu	Gly	Gly	Glu	Gly	Gly	Glu	Glu	Gly	Glu	Gly	Thr	Ser
3860						3865					3870			
Ile	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe	His	Gln
3875						3880					3885			
Ala	Arg	Leu	Ser	Asn	Arg	Gly	Val	Ala	Glu	Met	Val	Leu	Leu	His
3890						3895					3900			
Ile	Ser	Ala	Ser	Lys	Gly	Ile	Pro	Ser	Glu	Met	Val	Met	Thr	Thr
3905						3910					3915			
Leu	Asn	Leu	Gly	Ile	Ala	Ile	Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile
3920						3925					3930			
Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Glu	Lys	Lys	Asp	Val	Gly
3935						3940					3945			
Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser	Val	Leu
3950						3955					3960			
Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly
3965						3970					3975			
Val	Gly	Ser	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His	Asp	Ala
3980						3985					3990			
Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu
3995						4000					4005			
Gly	His	Asn	Leu	Glu	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly
4010						4015					4020			
Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu
4025						4030					4035			
Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser
4040						4045					4050			
Ser	Lys	Glu	Ile	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys
4055						4060					4065			
Ala	Ile	Glu	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Ile	Glu	Val
4070						4075					4080			
Ile	Gln	Gly	Pro	Cys	Thr	Leu	Asn	Gln	Gln	Ala	Leu	Ala	His	Ser
4085						4090					4095			
Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser	His
4100						4105					4110			
Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu	Leu
4115						4120					4125			
Lys	Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met	Leu
4130						4135					4140			

Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln
4145						4150					4155			
Met	Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile
4160						4165					4170			
Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Ala	Asp	Leu	Ile	Glu
4175						4180					4185			
Ser	Pro	Ser	Phe	His	Glu	Val	Asp	Met	Lys	Asn	Glu	Gly	Trp	Val
4190						4195					4200			
Thr	Pro	Lys	Asp	Phe	Arg	Glu	Lys	Met	Glu	Gln	Ser	Lys	Asn	Tyr
4205						4210					4215			
Thr	Pro	Glu	Glu	Met	Asp	Phe	Leu	Leu	Ala	Cys	Cys	Glu	Arg	Asn
4220						4225					4230			
His	Glu	Gly	Lys	Ile	Asp	Tyr	Arg	Ala	Phe	Val	Glu	His	Phe	His
4235						4240					4245			
Glu	Pro	Ser	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu	Thr
4250						4255					4260			
Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Ala	Arg	Phe
4265						4270					4275			
Leu	Glu	Thr	Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe	Glu	Pro	Phe	Leu
4280						4285					4290			
Gly	Arg	Ile	Glu	Ile	Leu	Gly	Ser	Ser	Lys	Arg	Ile	Glu	Arg	Val
4295						4300					4305			
Tyr	Phe	Glu	Ile	Lys	Asp	Ser	Asn	Ile	Glu	Gln	Trp	Glu	Lys	Pro
4310						4315					4320			
Gln	Ile	Arg	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr	Ser	Ile	Val	Thr
4325						4330					4335			
Glu	Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe	Val	Asn	Phe	Cys
4340						4345					4350			
Glu	Asp	Ala	Ile	Phe	Glu	Met	Thr	His	Ala	Ser	Gly	Leu	Met	Ala
4355						4360					4365			
Thr	Asp	Asp	Gly	Gly	Gly	Asn	Val	Lys	Arg	Asp	Thr	Ala	Tyr	Ser
4370						4375					4380			
Ser	Tyr	Met	Ser	Glu	Glu	Glu	Glu	Glu	Arg	Ala	Ala	Arg	Asp	Pro
4385						4390					4395			
Ile	Arg	Arg	Thr	Ile	Thr	Ala	Val	Lys	Glu	Gly	Leu	Lys	Phe	Gly
4400						4405					4410			
Val	His	Met	Leu	Ser	Pro	Ala	Asn	Ile	Lys	His	Gln	Ile	Gly	Val
4415						4420					4425			
Met	Gln	Thr	Lys	Ser	Ile	Pro	Glu	Leu	Ile	Val	Gly	Phe	Phe	Lys
4430						4435					4440			

Ile	Ile	Phe	Tyr	Ile	Phe	Tyr	Tyr	Thr	Gly	Tyr	Ala	His	Phe	Cys
4445						4450					4455			
Val	Val	Arg	Tyr	Ile	Phe	Gly	Ile	Leu	Leu	Asn	Leu	Met	Arg	Gly
4460						4465					4470			
Pro	Ala	Pro	Glu	Gln	Glu	Glu	Glu	Pro	Val	Val	Glu	Glu	Glu	Thr
4475						4480					4485			
Phe	Gly	Arg	Ala	Leu	Pro	Pro	Leu	Pro	Leu	Glu	Glu	Pro	Pro	Gly
4490						4495					4500			
Thr	Val	Gln	Ala	Phe	Gly	Leu	Asp	Ile	Asn	Lys	Glu	Glu	Asn	Gly
4505						4510					4515			
Met	Tyr	Lys	Val	Val	Val	His	Glu	Ser	Pro	Ala	Asn	Ser	Ser	Met
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 Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu
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 Glu Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val
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 acg cta cta tac ggc aat gct att ctt ttg cga cat ctt aac agt gat 336
 Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Leu Asn Ser Asp
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 atg tac ctg gcc tgc ctg tcg aca tca tcc tcc cag gat aag ctg gcc 384

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Thr	Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Asp	Met	His	Arg	Ser	Pro	His		
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Leu	Val	Pro	Tyr	Pro	Lys	Val	Asp	Asp	Ala	Ile	Lys	Lys	Ala	Asn		
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Arg	Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr	Leu	Leu	Val	Tyr	Gly		
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Tyr	Met	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gln	His	Glu	Ala	Leu	Leu		
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Leu	Glu	Ala	Ser	Lys	Gln	Lys	Gln	Ala	Asp	Phe	Arg	Thr	Tyr	Arg	
1070						1075					1080				
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Ala	Glu	Lys	Asn	Tyr	Ala	Val	Ser	Ser	Gly	Lys	Trp	Tyr	Phe	Glu	
1085						1090					1095				
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Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg	Val	Gly	Trp	Ala	His	
1100						1105					1110				
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Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly	Gln	Asp	Glu	Asn	Ser	
1115						1120					1125				
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Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys	Val	Tyr	Ser	Gly	Asn	
1130						1135					1140				
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Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val	Gly	Asp	Val	Val	Gly	
1145						1150					1155				
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Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile	Ser	Phe	Ser	Leu	Asn	
1160						1165					1170				
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Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Thr	Phe	Ala	
1175						1180					1185				
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Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly	Val	
1190						1195					1200				
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Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln	Asp	Val	Asn	Thr	Leu	
1205						1210					1215				
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Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	Phe	
1220						1225					1230				
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Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His	Trp	Tyr	Thr	Lys	Asp	
1235						1240					1245				
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Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met	Ile	Asp	Thr	Arg	Ile	
1250						1255					1260				
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Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp	Thr	Pro	Pro	Cys	Leu	
1265						1270					1275				
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Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn	Trp	
1280						1285					1290				
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Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile	Cys	His	Asn	Glu	Phe	
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Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp	Val	Glu	Ile	Lys	Asp	
	1310					1315					1320				
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Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val	Glu	Ala	Gln	Met	Pro	
	1325					1330					1335				
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Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly	Phe	Thr	Met	Asn	Asp	
	1340					1345					1350				
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Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln	Glu	Glu	Leu	Pro	Ser	
	1355					1360					1365				
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Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro	Pro	Arg	Lys	Gly	Ser	
	1370					1375					1380				
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Met	Thr	Arg	Gly	Val	Thr	Ile	Gln	Asn	Tyr	Asn	Asn	Leu	Gln	Pro	
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Gly	Gln	Val	Asn	Gly	Met	His	Arg	Ser	Thr	Ser	Glu	Ala	Glu	Met	
	1400					1405					1410				
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Ala	Lys	Tyr	Asp	Leu	Gly	Ala	Gln	Gly	Leu	Thr	Pro	Asp	Asp	Lys	
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Lys	Asp	Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Arg	Ser	Lys	
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Arg	Gly	Glu	Ser	Ser	Asp	Arg	Ala	Lys	Ser	Arg	Lys	Ser	Lys	Thr	
	1445					1450					1455				
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Pro	Asp	Pro	Phe	Ser	Asp	Thr	Glu	Val	Ser	Pro	Glu	Arg	Gly	Ala	
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Arg	Arg	Pro	Asn	Pro	Gln	Ile	Lys	Val	Ser	Gln	Ala	Asn	Gln	Arg	
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Tyr	Asn	Gly	Met	Asn	Ala	Arg	Pro	Ser	Arg	Thr	Asn	Leu	Tyr	Gly	
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Ser	Gln	Val	Gly	Leu	Asn	Met	Ala	Thr	Pro	Thr	Gln	Asp	Arg	Lys	
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Gln Met	Thr Thr	Ser Thr	Leu	Ala Gln	Ser Ala	Thr	Glu Thr	Val		
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Gly Asn	Glu Ile	Phe Asp	Ala	Glu Cys	Leu Lys	Leu	Ile Asn	Glu		
1535			1540			1545				
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Tyr Phe	Tyr Gly	Val Arg	Ile	Tyr Pro	Gly Gln	Asp	Pro Thr	His		
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Val Tyr	Ile Gly	Trp Val	Thr	Thr Gln	Tyr His	Leu	His Ser	Lys		
1565			1570			1575				
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Asp Phe	Asn Gln	Ser Lys	Val	Thr Lys	Ser Ser	Val	Ile Ile	Thr		
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Asp Asp	Tyr Asp	Arg Val	Val	Glu Asn	Val Asn	Arg	Gln Ser	Cys		
1595			1600			1605				
tac atg	gtg cga	gct gat	gag	ctg tac	aac gag	gtg	atg gcg	gaa	4869	
Tyr Met	Val Arg	Ala Asp	Glu	Leu Tyr	Asn Glu	Val	Met Ala	Glu		
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gcc acg	gcc aag	ggc gcc	tcg	caa ggc	atg ttc	atc	ggc tgc	tcc	4914	
Ala Thr	Ala Lys	Gly Ala	Ser	Gln Gly	Met Phe	Ile	Gly Cys	Ser		
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Val Asp	Thr Ser	Thr Gly	Ser	Val Ser	Phe Thr	Cys	Glu Gly	Lys		
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Asp Thr	Ser Phe	Lys Phe	Lys	Met Glu	Pro Glu	Thr	Lys Leu	Phe		
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ccc gcg	atc ttc	gta gaa	gcg	acc tcc	aag gag	atc	ctg cag	ata	5049	
Pro Ala	Ile Phe	Val Glu	Ala	Thr Ser	Lys Glu	Ile	Leu Gln	Ile		
1670			1675			1680				
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Glu Leu	Gly Arg	Ser Ala	Thr	Ser Leu	Pro Leu	Ser	Ala Ala	Val		
1685			1690			1695				
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Leu Pro	Thr Ser	Asp Lys	His	Val Ile	Pro Gln	Phe	Pro Pro	Arg		
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Leu Lys	Val Gln	Cys Leu	Lys	Pro His	Gln Trp	Ala	Arg Val	Pro		
1715			1720			1725				
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Asn Gln	Ser Leu	Gln Val	His	Ala Leu	Lys Leu	Ser	Asp Ile	Arg		
1730			1735			1740				
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Gly	Trp	Ser	Met	Leu	Cys	Glu	Asp	Ala	Val	Ser	Met	Leu	Ala	Leu	
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His	Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu	Pro	Ile	
1760						1765					1770				
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Glu	Met	Asp	Lys	Leu	Leu	Ser	Phe	His	Ser	His	Thr	Leu	Thr	Leu	
1775						1780					1785				
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Tyr	Ala	Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	
1790						1795					1800				
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Leu	Cys	Thr	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Gln	
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Ser	Gln	Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	
1820						1825					1830				
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Leu	Ile	Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Ala	
1835						1840					1845				
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Cys	Lys	Asn	Glu	Phe	Val	Ile	Pro	Leu	Gly	Pro	Glu	Leu	Lys	Ala	
1850						1855					1860				
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Leu	Tyr	Glu	Glu	Pro	Asp	Met	Gly	His	Ser	Leu	Arg	Ser	Leu	Gln	
1865						1870					1875				
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Thr	Glu	Ser	Val	Arg	Pro	Gln	Met	Lys	Met	Thr	Asp	Ile	Ala	Glu	
1880						1885					1890				
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Ser	Ile	Thr	Glu	Ile	Ser	Asn	Leu	Tyr	Ser	Pro	Tyr	Phe	Pro	Leu	
1895						1900					1905				
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Glu	Val	Ala	Arg	Glu	Phe	Val	Met	Gln	Ala	Leu	Ala	Glu	Ala	Val	
1910						1915					1920				
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Glu	Thr	Asn	Gln	Val	His	Asn	Arg	Asp	Pro	Val	Gly	Gly	Ser	Asn	
1925						1930					1935				
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Glu	Asn	Leu	Phe	Leu	Pro	Leu	Ile	Lys	Leu	Val	Asp	Arg	Leu	Leu	
1940						1945					1950				
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Leu	Val	Gly	Met	Met	Arg	Asp	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile	
1955						1960					1965				
atg	acc	aac	cct	gag	aca	tgg	gac	ccc	tcg	ttt	gac	aaa	gag	ggt	5949

Met	Thr	Asn	Pro	Glu	Thr	Trp	Asp	Pro	Ser	Phe	Asp	Lys	Glu	Gly	
	1970					1975					1980				
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Lys	Asp	Glu	His	Arg	Lys	Gly	Leu	Leu	His	Met	Lys	Met	Ala	Glu	
	1985					1990					1995				
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Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	Gln	His	Leu	Asn	Asp	
	2000					2005					2010				
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Ile	Gln	Leu	Arg	His	Arg	Val	Glu	Ala	Ile	Ile	Ala	Phe	Ala	His	
	2015					2020					2025				
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Asp	Phe	Val	Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Thr	
	2030					2035					2040				
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Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	
	2045					2050					2055				
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Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile	
	2060					2065					2070				
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Leu	Ser	Phe	Lys	His	Leu	Glu	Glu	Glu	Asp	Lys	Glu	Asn	Cys	Pro	
	2075					2080					2085				
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Cys	Gly	Glu	Glu	Leu	Ile	Ala	Arg	Met	Asn	Glu	Phe	His	Asp	Thr	
	2090					2095					2100				
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Leu	Met	Ala	His	Val	Ser	Leu	His	Ala	Leu	Gln	Glu	Pro	Asp	Ala	
	2105					2110					2115				
gcg	gaa	aac	caa	gaa	cca	gaa	gca	aaa	ccg	ggc	gca	ttc	ggc	aag	6399
Ala	Glu	Asn	Gln	Glu	Pro	Glu	Ala	Lys	Pro	Gly	Ala	Phe	Gly	Lys	
	2120					2125					2130				
tta	tac	aac	att	atc	aac	acg	gta	aag	gaa	ttg	gaa	gaa	gaa	gct	6444
Leu	Tyr	Asn	Ile	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	Glu	Ala	
	2135					2140					2145				
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Lys	Ala	Ile	Glu	Glu	Pro	Pro	Lys	Lys	Thr	Pro	Glu	Glu	Lys	Phe	
	2150					2155					2160				
cgt	aag	gtc	ctc	atc	cag	acc	atc	gtg	aac	tgg	gct	gag	gag	tcg	6534
Arg	Lys	Val	Leu	Ile	Gln	Thr	Ile	Val	Asn	Trp	Ala	Glu	Glu	Ser	
	2165					2170					2175				
cag	ata	gaa	aca	ccc	aaa	ctc	gtc	aga	gaa	atg	ttc	agt	ctt	cta	6579
Gln	Ile	Glu	Thr	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	
	2180					2185					2190				
gtc	cgc	cag	tac	gac	gca	gta	ggc	gaa	cta	atc	cgc	gct	cta	gag	6624

Val	Arg	Gln	Tyr	Asp	Ala	Val	Gly	Glu	Leu	Ile	Arg	Ala	Leu	Glu		
	2195					2200					2205					
aag	aca	tac	gtc	atc	aac	gcg	aag	acc	aag	tta	gat	gtc	gcg	gag	6669	
Lys	Thr	Tyr	Val	Ile	Asn	Ala	Lys	Thr	Lys	Leu	Asp	Val	Ala	Glu		
	2210					2215					2220					
atg	tgg	gtg	ggg	ctc	agc	cag	atc	cga	gcc	ctc	ctg	cca	gtg	cag	6714	
Met	Trp	Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln		
	2225					2230					2235					
atg	agc	cag	gag	gaa	gag	gaa	ctc	atg	agg	aag	agg	ctc	tgg	aaa	6759	
Met	Ser	Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys		
	2240					2245					2250					
ctt	gtg	aac	aac	cac	aca	ttc	ttc	cag	cat	cca	gac	ttg	atc	agg	6804	
Leu	Val	Asn	Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg		
	2255					2260					2265					
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Leu	Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Gln	Pro	Ser	Ser		
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Gln	Pro	Val	Ala	Glu	Asp	Ser	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu		
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Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr		
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Gly	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu		
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Leu	Glu	Asn	Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly		
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Ser	Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr		
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Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala		
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Arg Tyr	Leu Asp Phe Leu	Arg Phe Cys Val Trp Val	Asn Gly Glu	
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Ser Val	Glu Glu Asn Ala Asn	Leu Val Ile Arg Leu	Leu Ile Arg	
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Arg Pro	Glu Cys Leu Gly Pro	Ala Leu Arg Gly Glu	Gly Glu Gly	
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Leu Leu	Lys Ala Ile Val Asp	Ala Asn Lys Met Ser	Glu Arg Ile	
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Ala Asp	Arg Arg Lys Leu Arg	Glu Met Glu Gln Glu	Gly Asp Val	
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Asn Phe	Ser His Pro Leu Pro	Glu Ser Asp Glu Asp	Glu Asp Tyr	
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ata gac	acg ggc gcc gcc atc	ttg aac ttc tac tgt	acc ttg gta	7569
Ile Asp	Thr Gly Ala Ala Ile	Leu Asn Phe Tyr Cys	Thr Leu Val	
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Asp Leu	Leu Gly Arg Cys Ala	Pro Asp Ala Gly Val	Ile Ala Leu	
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Gly Lys	Asn Glu Ser Leu Arg	Ala Arg Ala Ile Leu	Arg Ser Leu	
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Val Pro	Leu Glu Asp Leu Gln	Gly Val Leu Ser Leu	Arg Phe Thr	
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Leu Asn	Asn Pro Ala Ala Gly	Glu Glu Arg Pro Lys	Ser Asp Met	
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Pro Ser	Gly Leu Ile Pro Gly	His Lys Gln Ser Val	Gly Leu Phe	
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Leu Leu	Glu Glu Ala Phe Leu	Pro Asp Leu Arg Ala	Ala Thr Met	
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Ile	Trp	Ser	Lys	Ser	Gln	Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe	
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Ser	Asn	Met	Leu	Gly	Met	Glu	Lys	Thr	Ser	Phe	Ser	Ala	Gln	Glu	
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Glu	Glu	Gly	Ser	Lys	Gly	Leu	Ile	His	Tyr	Ile	Ile	Asn	Ile	Asp	
4850						4855					4860				
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Trp	Arg	Tyr	Gln	Val	Trp	Lys	Ala	Gly	Val	Thr	Ile	Thr	Asp	Asn	
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Ser	Phe	Leu	Tyr	Ser	Leu	Trp	Tyr	Phe	Ser	Phe	Ser	Val	Met	Gly	
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Asn	Phe	Asn	Asn	Phe	Phe	Phe	Ala	Ala	His	Leu	Leu	Asp	Val	Ala	
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gtt	ggg	ttt	aag	acc	ctg	agg	act	atc	ttg	cag	tct	gtc	acg	cat	14769
Val	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile	Leu	Gln	Ser	Val	Thr	His	
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Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Met	Leu	Leu	Thr	Ile	Ile	
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Val	Tyr	Ile	Tyr	Thr	Val	Ile	Ala	Phe	Asn	Phe	Phe	Arg	Lys	Phe	
4940						4945					4950				
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Tyr	Val	Gln	Glu	Glu	Asp	Asp	Glu	Val	Asn	Arg	Asn	Cys	His	Asp	
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Met	Leu	Thr	Cys	Phe	Val	Phe	Asn	Leu	Tyr	Lys	Gly	Val	Arg	Ala	
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ggc	ggc	ggc	atc	ggc	gac	gag	ctg	gag	ccg	cct	gat	gga	gac	gac	14994
Gly	Gly	Gly	Ile	Gly	Asp	Glu	Leu	Glu	Pro	Pro	Asp	Gly	Asp	Asp	
4985						4990					4995				
tcc	gag	gtc	tac	cgc	atc	atc	ttc	gac	atc	tcc	ttc	ttc	ttc	ttc	15039
Ser	Glu	Val	Tyr	Arg	Ile	Ile	Phe	Asp	Ile	Ser	Phe	Phe	Phe	Phe	
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atc	atc	gtt	atc	ctg	ctc	gct	atc	ctg	cag	ggg	ttg	atc	atc	gac	15084
Ile	Ile	Val	Ile	Leu	Leu	Ala	Ile	Leu	Gln	Gly	Leu	Ile	Ile	Asp	
5015						5020					5025				
gcg	ttc	gga	gag	ctg	cgt	gac	cag	ttg	gag	tcg	gtc	aag	gag	gac	15129
Ala	Phe	Gly	Glu	Leu	Arg	Asp	Gln	Leu	Glu	Ser	Val	Lys	Glu	Asp	
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Met	Glu	Ser	Asn	Cys	Phe	Ile	Cys	Gly	Ile	Asn	Lys	Asp	Tyr	Phe	
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gat	aaa	gtg	ccg	cac	ggg	ttc	gac	aca	cac	gtg	caa	agg	gaa	cac	15219
Asp	Lys	Val	Pro	His	Gly	Phe	Asp	Thr	His	Val	Gln	Arg	Glu	His	
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Asn	Leu	Ala	Asn	Tyr	Met	Phe	Phe	Leu	Met	His	Leu	Ile	Asn	Lys	
5075						5080					5085				
ccc	gat	acg	gag	tat	aca	ggg	caa	gaa	acc	tac	gta	tgg	aac	atg	15309
Pro	Asp	Thr	Glu	Tyr	Thr	Gly	Gln	Glu	Thr	Tyr	Val	Trp	Asn	Met	
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tac	aca	caa	aga	tgt	tgg	gac	ttt	ttc	ccc	gtg	gga	gat	tgt	ttc	15354
Tyr	Thr	Gln	Arg	Cys	Trp	Asp	Phe	Phe	Pro	Val	Gly	Asp	Cys	Phe	
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<220>
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<400> 128
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 20 25 30
 Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu
 35 40 45
 Glu Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val
 50 55 60
 Phe Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val
 65 70 75 80
 Thr Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg
 85 90 95
 Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Leu Asn Ser Asp
 100 105 110
 Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Gln Asp Lys Leu Ala
 115 120 125
 Phe Asp Val Gly Leu Gln Gln His Ser Gln Gly Glu Ala Cys Trp Trp
 130 135 140
 Thr Leu His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg
 145 150 155 160
 Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu
 165 170 175
 His Thr Thr Lys Glu Asn Glu Val Ser Ile Val Asn Ala Ser Phe His
 180 185 190
 Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met
 195 200 205
 Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His
 210 215 220
 Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Thr Lys Asp Gly
 225 230 235 240
 Gly Gln Asn Ile Val Val Tyr Glu Gly Gly Ser Val Met Ser Gln Ala
 245 250 255

Arg	Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	Lys	Trp	Ala	Gly	Gly	
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Phe	Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	His	Ile	Thr	Thr	Gly	
		275					280					285				
Arg	Tyr	Leu	Gly	Val	Asn	Asp	Gln	Asn	Glu	Leu	Tyr	Leu	Val	Ser	Arg	
	290					295					300					
Glu	Glu	Ala	Thr	Thr	Ala	Ser	Cys	Ala	Phe	Cys	Leu	Arg	Gln	Glu	Lys	
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Asp	Asp	Gln	Lys	Gln	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	
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Ala	Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Ser	Thr	Val	Ile	Val	Gln	His	Ser	
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Glu	Thr	Gly	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Lys	
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Gly	Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	
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Lys	Met	Asp	Asp	Gly	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	
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Arg	Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Lys	Phe	
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Ile	Asn	Gly	Leu	Glu	Thr	Leu	Gln	Glu	Asn	Arg	Arg	His	Ser	Met	Phe	
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Ile	Asn	Tyr	Phe	Ala	Gln	Pro	Asp	Glu	Asp	Met	Glu	His	Glu	Glu	Lys	
	450					455					460					
Gln	Asn	Lys	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	
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Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Val	
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Ile	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu	Ala	Gly	Asp	Glu	Ser	
		500						505					510			
Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	
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Ala	Ile	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	
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Glu	Gly	Thr	Gly	Met	Leu	Asp	Val	Leu	His	Cys	Val	Leu	Ile	Asp	Ser	
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Pro Glu Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile
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 Ser Leu Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu
 595 600 605
 Cys Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn
 610 615 620
 Asn Ile Cys Asp Tyr Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr
 625 630 635 640
 Ala Leu Val Asp His Val Ser Ser Val Arg Pro Asn Ile Phe Val Gly
 645 650 655
 Arg Val Glu Gly Ser Ala Val Tyr Arg Lys Trp Tyr Phe Glu Val Thr
 660 665 670
 Met Asp His Ile Glu Lys Thr Thr His Met Met Pro His Leu Arg Ile
 675 680 685
 Gly Trp Ala Asn Thr Thr Gly Tyr Val Pro Tyr Pro Gly Gly Gly Glu
 690 695 700
 Lys Trp Gly Gly Asn Gly Val Gly Asp Asp Leu Tyr Ser Tyr Gly Phe
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 Asp Gly Ala Tyr Leu Trp Ser Gly Gly Arg Lys Thr Pro Val Asn Arg
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 Thr His Ala Glu Glu Pro Tyr Ile Arg Lys Gly Asp Val Ile Gly Cys
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 Ala Leu Asp Leu Thr Val Pro Ile Ile Asn Phe Met Phe Asn Gly Val
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 Arg Val Thr Gly Ser Phe Thr Asn Phe Asn Leu Glu Gly Met Phe Phe
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 Gly Glu His Gly Arg Leu Arg Tyr Ala Ala Pro Glu Gly Tyr Ser Pro
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 820 825 830
 Phe Tyr Phe Gly Asn Leu Ser Lys Arg Ala Leu Ala Gly Pro Pro Leu
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 Val Gln Asp Asp Thr Ala Phe Val Pro Thr Pro Val Asp Thr Leu Gln
 850 855 860
 Ile Thr Leu Pro Thr Tyr Val Glu Gln Ile Arg Asp Lys Leu Ala Glu
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 Asn Ile His Glu Met Trp Ala Met Asn Lys Ile Glu Ala Gly Trp Met
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Tyr Gly Asp Gln Arg Glu Asp Leu His Lys Ile His Pro Cys Leu Val
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 Pro Phe Glu Arg Leu Pro Pro Ala Glu Lys Arg Tyr Asp Ile Gln Leu
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 Ala Val Gln Thr Leu Lys Thr Ile Leu Ala Leu Gly Tyr Tyr Ile Ser
 930 935 940
 Leu Asp Lys Pro Pro Ala Arg Ile Arg Asn Val Arg Leu Pro Asn Glu
 945 950 955 960
 Pro Phe Met Gln Ser Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser
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 Glu Asn Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp
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 Thr Tyr Gly Leu Asn Glu Asp Ser Asp Met His Arg Ser Pro His
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 Arg Asp Thr Ala Ser Glu Thr Val Arg Thr Leu Leu Val Tyr Gly
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 Tyr Met Leu Asp Pro Pro Thr Gly Glu Gln His Glu Ala Leu Leu
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 Ala Glu Lys Asn Tyr Ala Val Ser Ser Gly Lys Trp Tyr Phe Glu
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 Phe Glu Ile Leu Thr Ala Gly Pro Met Arg Val Gly Trp Ala His
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 Ala Asp Met Ala Pro Gly Met Met Leu Gly Gln Asp Glu Asn Ser
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 Thr Glu Ser Phe Gly Lys Gln Trp Ala Val Gly Asp Val Val Gly
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 Asp Val Gln Gly Asp Asn Phe Val Pro Ala Cys Thr Leu Gly Val
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Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	Phe
1220						1225					1230			
Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His	Trp	Tyr	Thr	Lys	Asp
1235						1240					1245			
Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met	Ile	Asp	Thr	Arg	Ile
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1265						1270					1275			
Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn	Trp
1280						1285					1290			
Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile	Cys	His	Asn	Glu	Phe
1295						1300					1305			
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1310						1315					1320			
Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val	Glu	Ala	Gln	Met	Pro
1325						1330					1335			
Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly	Phe	Thr	Met	Asn	Asp
1340						1345					1350			
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1355						1360					1365			
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1370						1375					1380			
Met	Thr	Arg	Gly	Val	Thr	Ile	Gln	Asn	Tyr	Asn	Asn	Leu	Gln	Pro
1385						1390					1395			
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Ala	Lys	Tyr	Asp	Leu	Gly	Ala	Gln	Gly	Leu	Thr	Pro	Asp	Asp	Lys
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1460						1465					1470			
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1475						1480					1485			
Tyr	Asn	Gly	Met	Asn	Ala	Arg	Pro	Ser	Arg	Thr	Asn	Leu	Tyr	Gly
1490						1495					1500			

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1685						1690					1695			
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1760						1765					1770			
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1790						1795					1800			

Leu	Cys	Thr	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Gln
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1865						1870					1875			
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1880						1885					1890			
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1895						1900					1905			
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1910						1915					1920			
Glu	Thr	Asn	Gln	Val	His	Asn	Arg	Asp	Pro	Val	Gly	Gly	Ser	Asn
1925						1930					1935			
Glu	Asn	Leu	Phe	Leu	Pro	Leu	Ile	Lys	Leu	Val	Asp	Arg	Leu	Leu
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1955						1960					1965			
Met	Thr	Asn	Pro	Glu	Thr	Trp	Asp	Pro	Ser	Phe	Asp	Lys	Glu	Gly
1970						1975					1980			
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1985						1990					1995			
Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	Gln	His	Leu	Asn	Asp
2000						2005					2010			
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2015						2020					2025			
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Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys
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Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile
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Leu Met 2105	Ala His Val Ser	Leu His Ala Leu Gln Glu 2110 2115	Pro Asp Ala
Ala Glu 2120	Asn Gln Glu Pro	Glu Ala Lys Pro Gly Ala 2125 2130	Phe Gly Lys
Leu Tyr 2135	Asn Ile Ile Asn Thr	Val Lys Glu Leu Glu 2140 2145	Glu Glu Ala
Lys Ala 2150	Ile Glu Glu Pro	Pro Lys Lys Thr Pro Glu 2155 2160	Glu Lys Phe
Arg Lys 2165	Val Leu Ile Gln Thr	Ile Val Asn Trp Ala 2170 2175	Glu Glu Ser
Gln Ile 2180	Glu Thr Pro Lys	Leu Val Arg Glu Met Phe 2185 2190	Ser Leu Leu
Val Arg 2195	Gln Tyr Asp Ala	Val Gly Glu Leu Ile Arg 2200 2205	Ala Leu Glu
Lys Thr 2210	Tyr Val Ile Asn Ala	Lys Thr Lys Leu Asp 2215 2220	Val Ala Glu
Met Trp 2225	Val Gly Leu Ser	Gln Ile Arg Ala Leu Leu 2230 2235	Pro Val Gln
Met Ser 2240	Gln Glu Glu Glu	Glu Leu Met Arg Lys Arg 2245 2250	Leu Trp Lys
Leu Val 2255	Asn Asn His Thr	Phe Phe Gln His Pro Asp 2260 2265	Leu Ile Arg
Val Leu 2270	Arg Val His Glu	Asn Val Met Ala Val Met 2275 2280	Met Asn Thr
Leu Gly 2285	Arg Arg Ala Gln	Ala Gln Ser Asp Ala Gln 2290 2295	Pro Ser Ser
Gln Pro 2300	Val Ala Glu Asp	Ser Lys Glu Lys Asp Thr 2305 2310	Ser His Glu
Met Val 2315	Val Ala Cys Cys	Arg Phe Leu Cys Tyr Phe 2320 2325	Cys Arg Thr
Gly Arg 2330	Gln Asn Gln Lys	Ala Met Phe Asp His Phe 2335 2340	Asp Phe Leu
Leu Glu 2345	Asn Ser Asn Ile	Leu Leu Ser Arg Pro Ser 2350 2355	Leu Arg Gly
Ser Thr 2360	Pro Leu Asp Val	Ala Tyr Ser Ser Leu Met 2365 2370	Glu Asn Thr
Glu Leu 2375	Ala Leu Ala Leu	Arg Glu His Tyr Leu Glu 2380 2385	Lys Ile Ala
Val Tyr 2390	Leu Ser Arg Cys	Gly Leu Gln Ser Asn Ser 2395 2400	Glu Leu Val

Glu	Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu
2405						2410					2415			
Arg	Tyr	Leu	Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu
2420						2425					2430			
Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg
2435						2440					2445			
Arg	Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly
2450						2455					2460			
Leu	Leu	Lys	Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile
2465						2470					2475			
Ala	Asp	Arg	Arg	Lys	Leu	Arg	Glu	Met	Glu	Gln	Glu	Gly	Asp	Val
2480						2485					2490			
Asn	Phe	Ser	His	Pro	Leu	Pro	Glu	Ser	Asp	Glu	Asp	Glu	Asp	Tyr
2495						2500					2505			
Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu	Val
2510						2515					2520			
Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Gly	Val	Ile	Ala	Leu
2525						2530					2535			
Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser	Leu
2540						2545					2550			
Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Arg	Phe	Thr
2555						2560					2565			
Leu	Asn	Asn	Pro	Ala	Ala	Gly	Glu	Glu	Arg	Pro	Lys	Ser	Asp	Met
2570						2575					2580			
Pro	Ser	Gly	Leu	Ile	Pro	Gly	His	Lys	Gln	Ser	Val	Gly	Leu	Phe
2585						2590					2595			
Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Thr	Gln	Glu	Leu	Phe	Tyr	Lys
2600						2605					2610			
Leu	Leu	Glu	Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	Ala	Thr	Met
2615						2620					2625			
Leu	Asp	Arg	Asn	Asp	Gly	Cys	Glu	Ser	Asp	Met	Ala	Leu	Ser	Met
2630						2635					2640			
Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys	His
2645						2650					2655			
Ala	Tyr	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu	Asp
2660						2665					2670			
Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met	Leu
2675						2680					2685			
Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu
2690						2695					2700			

Thr	Ser	Ala	Met	Gln	Pro	Ser	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys
2705						2710					2715			
Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala
2720						2725					2730			
Leu	Arg	Leu	Leu	Thr	Leu	His	Tyr	Glu	Arg	Cys	Ala	Lys	Tyr	Tyr
2735						2740					2745			
Gly	Ser	Thr	Gly	Ala	Gly	Gln	Gly	Ala	Phe	Gly	Ala	Ser	Ser	Asp
2750						2755					2760			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Met	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2765						2770					2775			
Ser	Leu	Ser	Lys	Met	Asp	Tyr	Glu	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2780						2785					2790			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2795						2800					2805			
Ser	Leu	Ser	Lys	Asn	Tyr	Asp	Asp	Glu	Phe	Tyr	Gly	Lys	Glu	Gln
2810						2815					2820			
Ala	Ala	Gly	Asp	Leu	Asp	Asn	Pro	Gln	Tyr	Asp	Pro	Gln	Pro	Ile
2825						2830					2835			
Asn	Thr	Ser	Ser	Val	Ala	Leu	Asn	Asn	Asp	Leu	Asn	Thr	Ile	Val
2840						2845					2850			
Gln	Lys	Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Lys
2855						2860					2865			
Ile	Glu	Asn	Gly	Trp	Val	Tyr	Gly	Glu	Gly	Trp	Ser	Asp	Ser	Gln
2870						2875					2880			
Lys	Thr	His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Asn	Asp	Tyr
2885						2890					2895			
Glu	Lys	Glu	Arg	Tyr	Lys	Glu	Pro	Val	Arg	Glu	Ser	Leu	Lys	Ala
2900						2905					2910			
Leu	Leu	Ala	Ile	Gly	Trp	Ser	Val	Glu	His	Ser	Glu	Val	Asp	Ile
2915						2920					2925			
Pro	Ser	Asn	Asn	Arg	Ser	Ser	Met	Arg	Arg	Gln	Ser	Lys	Ser	Gly
2930						2935					2940			
Gly	Arg	Pro	Pro	Glu	Ile	Val	Thr	Asp	Ser	Ala	Thr	Pro	Phe	Asp
2945						2950					2955			
Tyr	Asn	Pro	His	Pro	Val	Asp	Met	Thr	Asn	Leu	Thr	Leu	Ser	Arg
2960						2965					2970			
Glu	Met	Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Asp	Asn	Ala	His	Asp
2975						2980					2985			
Ile	Trp	Ala	Lys	Lys	Lys	Lys	Glu	Glu	Leu	Val	Thr	Asn	Gly	Gly
2990						2995					3000			

Gly	Ile	His	Pro	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys
3005						3010					3015			
Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr
3020						3025					3030			
Leu	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Ser	Lys	Ala	Pro
3035						3040					3045			
Gln	Ser	Asp	Thr	Glu	Gln	Thr	Thr	Thr	Gly	Val	Ala	Ile	Glu	Leu
3050						3055					3060			
Arg	Phe	Ala	Tyr	Ser	Leu	Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Ile	Asp
3065						3070					3075			
Arg	Ala	Thr	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe
3080						3085					3090			
Ser	Arg	Arg	Ser	Ser	Phe	Lys	Thr	Ser	Thr	Arg	Asp	Ile	Lys	Phe
3095						3100					3105			
Phe	Ser	Lys	Ala	Val	Leu	Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr
3110						3115					3120			
His	Arg	Asn	Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Thr	Asn	Asn	Val
3125						3130					3135			
Gly	Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu	Met	Val	Ala	Ala	Leu	Phe
3140						3145					3150			
Cys	Lys	Leu	Ala	Ser	Leu	Leu	Arg	Ser	Arg	Leu	Ala	Ala	Phe	Gly
3155						3160					3165			
Pro	Asp	Val	Arg	Ile	Thr	Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys
3170						3175					3180			
Gly	Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	Glu	Phe	Ile
3185						3190					3195			
Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn	Asn	Val	Ala	Asp	Asp	Val
3200						3205					3210			
Gly	His	Thr	Ile	Met	Asn	Leu	Gln	Asp	Gly	Lys	Tyr	Ala	His	Leu
3215						3220					3225			
Arg	Gly	Thr	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Ile	Asn
3230						3235					3240			
Gly	Val	Leu	Leu	Pro	Ile	Leu	Thr	Ala	Lys	Phe	Asp	His	Leu	Ala
3245						3250					3255			
Asn	Cys	Glu	Tyr	Gly	Ala	Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln	Val
3260						3265					3270			
Ala	Ser	Tyr	Lys	Met	Leu	Gly	Ser	Leu	Tyr	Ala	Leu	Gly	Thr	Asp
3275						3280					3285			
Ala	Ser	Leu	Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile	Glu
3290						3295					3300			

Arg	His	Lys	Pro	Ala	Leu	Gly	Ser	Cys	Leu	Gly	Ala	Phe	Ser	Ser
3305						3310					3315			
Thr	Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro	His	Leu	Asn	Lys	His	Asn
3320						3325					3330			
Gln	Phe	Ser	Leu	Leu	Asn	Arg	Ile	Ala	Asp	His	Ser	Leu	Glu	Ala
3335						3340					3345			
Gln	Asp	Ile	Met	Gln	Lys	Met	Glu	Gln	Cys	Met	Pro	Thr	Leu	Glu
3350						3355					3360			
Thr	Ile	Leu	Gly	Glu	Val	Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys	Thr
3365						3370					3375			
Tyr	Asn	Glu	Ala	Pro	His	Ile	Ile	Asp	Val	Val	Leu	Pro	Leu	Leu
3380						3385					3390			
Cys	Ser	Tyr	Leu	Pro	Phe	Trp	Trp	Ala	Gln	Gly	Pro	Asp	Asn	Val
3395						3400					3405			
Thr	Pro	Thr	Gly	Gly	Asn	His	Val	Thr	Met	Val	Thr	Ala	Glu	His
3410						3415					3420			
Met	Asn	Gln	Leu	Leu	Lys	Asn	Val	Leu	Lys	Leu	Ile	Lys	Lys	Asn
3425						3430					3435			
Ile	Gly	Asn	Glu	Asn	Ala	Pro	Trp	Met	Thr	Arg	Ile	Ala	Thr	Tyr
3440						3445					3450			
Thr	Gln	Gln	Ile	Ile	Ile	Asn	Ser	Ser	Glu	Glu	Leu	Leu	Arg	Asp
3455						3460					3465			
Ser	Phe	Leu	Pro	Leu	Ala	Glu	Arg	Val	Arg	Lys	Arg	Thr	Asp	Asn
3470						3475					3480			
Met	Phe	His	Lys	Glu	Glu	Ser	Leu	Arg	Gly	Phe	Ile	Lys	Ser	Ser
3485						3490					3495			
Thr	Asp	Asp	Thr	Ser	Gln	Val	Glu	Ser	Gln	Ile	Gln	Glu	Asp	Trp
3500						3505					3510			
Gln	Leu	Leu	Val	Arg	Asp	Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu	Ile
3515						3520					3525			
Lys	Tyr	Val	Asp	Leu	Gln	Arg	Asn	His	Trp	Leu	Arg	Asn	Asn	Val
3530						3535					3540			
Pro	Glu	Ala	Glu	Glu	Leu	Tyr	Asn	His	Val	Ala	Glu	Ile	Phe	Asn
3545						3550					3555			
Ile	Trp	Ser	Lys	Ser	Gln	Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn	Phe
3560						3565					3570			
Ile	Ser	Ala	Asn	Glu	Ile	Asp	Asn	Met	Val	Leu	Ile	Met	Pro	Thr
3575						3580					3585			
Ala	Thr	Arg	Arg	Val	Thr	Ala	Val	Thr	Asp	Gly	Thr	Pro	Gln	Gly
3590						3595					3600			

Gly	Gly	Lys	Lys	Lys	Lys	Lys	His	Arg	Asp	Lys	Lys	Arg	Asp	Lys
3605						3610					3615			
Asp	Lys	Glu	Val	Gln	Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys	Arg
3620						3625					3630			
Leu	Leu	Pro	Val	Gly	Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln	Glu
3635						3640					3645			
Leu	Val	Gln	His	Cys	Lys	Asp	Arg	Phe	Leu	Lys	Lys	Met	Ser	Glu
3650						3655					3660			
Gln	Asp	Val	Ala	Glu	Phe	Ala	Lys	Thr	Gln	Leu	Thr	Leu	Pro	Asp
3665						3670					3675			
Lys	Ile	Asp	Pro	Ala	Asp	Glu	Met	Ser	Trp	Gln	His	Tyr	Leu	Tyr
3680						3685					3690			
Ser	Lys	Leu	Gly	Ser	Lys	Ser	Lys	Ser	Asn	Ile	Thr	Val	Glu	Thr
3695						3700					3705			
Ala	Glu	Asn	Lys	Ala	Lys	Ile	Ile	Asp	Asp	Thr	Val	Glu	Arg	Ile
3710						3715					3720			
Val	Ala	Met	Ser	Lys	Val	Leu	Phe	Gly	Leu	His	Met	Ile	Asp	His
3725						3730					3735			
Pro	Gln	Gln	Met	Ser	Lys	Asn	Val	Tyr	Arg	Ser	Val	Val	Ser	Ile
3740						3745					3750			
Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys	Phe	Arg	Gln	Thr	Ser	Leu
3755						3760					3765			
His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys	Asn	Ile	Phe	Ala	Arg	Thr
3770						3775					3780			
Tyr	Tyr	Glu	Leu	Trp	Leu	Glu	Glu	Glu	Asn	Ile	Gly	Gln	Glu	Val
3785						3790					3795			
Met	Ile	Glu	Asp	Leu	Thr	Gln	Ser	Phe	Glu	Asp	Ala	Glu	Leu	Lys
3800						3805					3810			
Lys	Ser	Asp	Val	Val	Glu	Glu	Gly	Glu	Lys	Pro	Asp	Pro	Leu	Thr
3815						3820					3825			
Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly	Ala	Met	Thr	Glu	Arg	Ser
3830						3835					3840			
Gly	Ala	Leu	Gln	Glu	Asp	Pro	Leu	Tyr	Met	Ser	Tyr	Ala	His	Ile
3845						3850					3855			
Ile	Ala	Lys	Ser	Cys	Gly	Glu	Glu	Glu	Glu	Glu	Gly	Gly	Gly	Glu
3860						3865					3870			
Glu	Glu	Glu	Gly	Gly	Gly	Glu	Ala	Glu	Ala	Glu	Asp	Glu	Gly	Arg
3875						3880					3885			
Ala	Ser	Ile	His	Glu	Gln	Glu	Met	Glu	Lys	Gln	Lys	Leu	Leu	Phe
3890						3895					3900			

His	Gln	Ala	Arg	Leu	Ala	Asp	Arg	Gly	Val	Ala	Glu	Met	Val	Leu
3905						3910					3915			
Leu	His	Ile	Ser	Ala	Ser	Lys	Gly	Leu	Pro	Ser	Glu	Met	Val	Met
3920						3925					3930			
Lys	Thr	Leu	Gln	Leu	Gly	Ile	Ser	Ile	Leu	Arg	Gly	Gly	Asn	Ile
3935						3940					3945			
Asp	Ile	Gln	Met	Gly	Met	Leu	Asn	His	Leu	Lys	Asp	Lys	Lys	Asp
3950						3955					3960			
Val	Gly	Phe	Phe	Thr	Ser	Ile	Ala	Gly	Leu	Met	Asn	Ser	Cys	Ser
3965						3970					3975			
Val	Leu	Asp	Leu	Asp	Ala	Phe	Glu	Arg	Asn	Thr	Lys	Ala	Glu	Gly
3980						3985					3990			
Leu	Gly	Val	Gly	Leu	Glu	Gly	Ala	Ala	Gly	Glu	Lys	Asn	Met	His
3995						4000					4005			
Asp	Ala	Glu	Phe	Thr	Cys	Ala	Leu	Phe	Arg	Phe	Ile	Gln	Leu	Thr
4010						4015					4020			
Cys	Glu	Gly	His	Asn	Leu	Asp	Trp	Gln	Asn	Tyr	Leu	Arg	Thr	Gln
4025						4030					4035			
Ala	Gly	Asn	Thr	Thr	Thr	Val	Asn	Val	Val	Ile	Cys	Thr	Val	Asp
4040						4045					4050			
Tyr	Leu	Leu	Arg	Leu	Gln	Glu	Ser	Ile	Met	Asp	Phe	Tyr	Trp	His
4055						4060					4065			
Tyr	Ser	Ser	Lys	Glu	Leu	Ile	Asp	Pro	Ala	Gly	Lys	Ala	Asn	Phe
4070						4075					4080			
Phe	Lys	Ala	Ile	Gly	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Thr
4085						4090					4095			
Glu	Val	Ile	Gln	Gly	Pro	Cys	Thr	Gln	Asn	Gln	Gln	Ala	Leu	Ala
4100						4105					4110			
His	Ser	Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe
4115						4120					4125			
Ser	His	Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp
4130						4135					4140			
Leu	Leu	Lys	Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Pro	Met
4145						4150					4155			
Met	Leu	Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly
4160						4165					4170			
Lys	Gln	Met	Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu
4175						4180					4185			
Leu	Ile	Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Lys	Asp	Leu
4190						4195					4200			

Thr	Ser	Ser	Ala	Ser	Phe	Gln	Glu	Ile	Asp	Ala	Asn	Asn	Asp	Gly
4205						4210					4215			
Trp	Val	Leu	Pro	Lys	Asp	Phe	Lys	Glu	Lys	Met	Glu	Gln	Gln	Lys
4220						4225					4230			
Ser	Tyr	Thr	Pro	Glu	Glu	Ile	Glu	Phe	Leu	Leu	Ala	Cys	Cys	Glu
4235						4240					4245			
Thr	Asn	His	Asp	Gly	Lys	Leu	Asp	Tyr	Ile	Gly	Phe	Cys	Asp	Arg
4250						4255					4260			
Phe	His	Glu	Pro	Ala	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu
4265						4270					4275			
Leu	Thr	Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Ala
4280						4285					4290			
Arg	Phe	Leu	Glu	Thr	Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe	Glu	Pro
4295						4300					4305			
Phe	Leu	Gly	Arg	Ile	Glu	Ile	Met	Gly	Gly	Ser	Lys	Arg	Ile	Glu
4310						4315					4320			
Arg	Val	Tyr	Phe	Glu	Ile	Lys	Glu	Ser	Asn	Ile	Glu	Gln	Trp	Glu
4325						4330					4335			
Lys	Pro	Gln	Ile	Lys	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr	Ser	Ile
4340						4345					4350			
Val	Thr	Glu	Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe	Val	Asn
4355						4360					4365			
Phe	Cys	Glu	Asp	Ala	Ile	Phe	Glu	Met	Thr	His	Ala	Ser	Gly	Leu
4370						4375					4380			
Met	Ala	Ala	Ser	Glu	Glu	Ser	Val	Gly	Gly	Thr	Lys	Asn	Arg	Glu
4385						4390					4395			
Ala	Ser	Tyr	Met	Tyr	Met	Gly	Asp	Asp	Asp	Asp	Glu	Arg	Ala	Gly
4400						4405					4410			
Lys	Asp	Pro	Phe	Arg	Arg	Gly	Leu	Gln	Ser	Val	Lys	Asp	Gly	Val
4415						4420					4425			
Ala	Thr	Ala	Phe	Ser	Ser	Leu	Ser	Pro	Ser	Asn	Ile	Lys	Ala	Lys
4430						4435					4440			
Ile	Ala	Asp	Met	Gln	Gln	Met	Pro	Pro	Ala	Glu	Leu	Ala	Val	Gly
4445						4450					4455			
Phe	Phe	Lys	Met	Phe	Phe	Tyr	Leu	Phe	Tyr	Tyr	Leu	Gly	Tyr	Gly
4460						4465					4470			
Val	Leu	Val	Val	Val	Arg	Tyr	Ile	Phe	Gly	Val	Leu	Leu	Gly	Leu
4475						4480					4485			
Met	Arg	Gly	Pro	Gln	Thr	Asp	Glu	Pro	Pro	Pro	Glu	Pro	Thr	Glu
4490						4495					4500			

Glu	Glu	Lys	Ile	Gly	Gln	Leu	Arg	His	Arg	Leu	Leu	Ala	Thr	Gln
4505						4510					4515			
Ser	Ser	Arg	His	Leu	Pro	Ala	Leu	Pro	Pro	Ala	Asp	Asp	Thr	Gly
4520						4525					4530			
Gln	Met	Gln	Val	Ser	Ala	Phe	Gly	Leu	Asp	Ile	Thr	Lys	Glu	Asp
4535						4540					4545			
Asn	Gly	Gln	Ile	Gln	Val	Lys	Pro	His	Glu	Ser	Pro	Ser	Thr	Ser
4550						4555					4560			
Thr	Pro	Ser	Ser	Gly	Glu	Glu	Ala	Glu	Val	Ser	Pro	Asp	Glu	Ser
4565						4570					4575			
Ala	Asp	His	Thr	Glu	Glu	Gln	Arg	Pro	Pro	Ser	Leu	Ile	Asp	Leu
4580						4585					4590			
Leu	Gly	Gly	Glu	Gln	Ala	Lys	Lys	Gln	Ala	Gln	Glu	Arg	Met	Glu
4595						4600					4605			
Ala	Gln	Ala	Ala	Gln	Gln	Ala	Ala	Met	Ser	Ala	Ile	Glu	Ala	Glu
4610						4615					4620			
Ser	Lys	Lys	Ala	Val	Gln	Gly	Pro	Ala	Pro	Ser	Ala	Leu	Ser	Gln
4625						4630					4635			
Val	Asp	Leu	Ser	Gln	Tyr	Thr	Arg	Arg	Ala	Val	Ser	Phe	Leu	Ala
4640						4645					4650			
Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val	Ala	Leu	Val	Leu	Ala	Phe
4655						4660					4665			
Cys	Ile	Asn	Phe	Val	Leu	Leu	Phe	Tyr	Lys	Val	Ser	Thr	Leu	Asp
4670						4675					4680			
Gly	Glu	Gly	Gly	Glu	Gly	Ser	Gly	Leu	Gly	Asp	Ile	Ile	Ala	Gly
4685						4690					4695			
Gly	Gly	Ser	Gly	Ser	Gly	Ala	Gly	Ser	Gly	Ser	Gly	Asp	Gly	Ser
4700						4705					4710			
Gly	Glu	Ser	Gly	Glu	Asp	Asp	Asp	Ala	Leu	Glu	Val	Val	His	Ile
4715						4720					4725			
Asp	Glu	Asp	Phe	Phe	Tyr	Met	Glu	His	Val	Ile	Lys	Met	Ala	Ala
4730						4735					4740			
Val	Leu	His	Ser	Ile	Val	Ser	Leu	Ala	Ile	Leu	Ile	Gly	Tyr	Tyr
4745						4750					4755			
His	Leu	Lys	Val	Pro	Leu	Ala	Ile	Phe	Lys	Arg	Glu	Lys	Glu	Ile
4760						4765					4770			
Ala	Arg	Lys	Leu	Glu	Phe	Asp	Gly	Leu	Tyr	Ile	Ala	Glu	Gln	Pro
4775						4780					4785			
Glu	Asp	Asp	Asp	Leu	Lys	Ser	His	Trp	Asp	Lys	Leu	Val	Ile	Ser
4790						4795					4800			

Ala	Lys	Ser	Phe	Pro	Val	Asn	Tyr	Trp	Asp	Lys	Phe	Val	Lys	Lys
4805						4810					4815			
Lys	Val	Arg	Ala	Lys	Tyr	Ser	Glu	Thr	Tyr	Asp	Phe	Asp	Ser	Ile
4820						4825					4830			
Ser	Asn	Met	Leu	Gly	Met	Glu	Lys	Thr	Ser	Phe	Ser	Ala	Gln	Glu
4835						4840					4845			
Glu	Glu	Gly	Ser	Lys	Gly	Leu	Ile	His	Tyr	Ile	Ile	Asn	Ile	Asp
4850						4855					4860			
Trp	Arg	Tyr	Gln	Val	Trp	Lys	Ala	Gly	Val	Thr	Ile	Thr	Asp	Asn
4865						4870					4875			
Ser	Phe	Leu	Tyr	Ser	Leu	Trp	Tyr	Phe	Ser	Phe	Ser	Val	Met	Gly
4880						4885					4890			
Asn	Phe	Asn	Asn	Phe	Phe	Phe	Ala	Ala	His	Leu	Leu	Asp	Val	Ala
4895						4900					4905			
Val	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile	Leu	Gln	Ser	Val	Thr	His
4910						4915					4920			
Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Met	Leu	Leu	Thr	Ile	Ile
4925						4930					4935			
Val	Tyr	Ile	Tyr	Thr	Val	Ile	Ala	Phe	Asn	Phe	Phe	Arg	Lys	Phe
4940						4945					4950			
Tyr	Val	Gln	Glu	Glu	Asp	Asp	Glu	Val	Asn	Arg	Asn	Cys	His	Asp
4955						4960					4965			
Met	Leu	Thr	Cys	Phe	Val	Phe	Asn	Leu	Tyr	Lys	Gly	Val	Arg	Ala
4970						4975					4980			
Gly	Gly	Gly	Ile	Gly	Asp	Glu	Leu	Glu	Pro	Pro	Asp	Gly	Asp	Asp
4985						4990					4995			
Ser	Glu	Val	Tyr	Arg	Ile	Ile	Phe	Asp	Ile	Ser	Phe	Phe	Phe	Phe
5000						5005					5010			
Ile	Ile	Val	Ile	Leu	Leu	Ala	Ile	Leu	Gln	Gly	Leu	Ile	Ile	Asp
5015						5020					5025			
Ala	Phe	Gly	Glu	Leu	Arg	Asp	Gln	Leu	Glu	Ser	Val	Lys	Glu	Asp
5030						5035					5040			
Met	Glu	Ser	Asn	Cys	Phe	Ile	Cys	Gly	Ile	Asn	Lys	Asp	Tyr	Phe
5045						5050					5055			
Asp	Lys	Val	Pro	His	Gly	Phe	Asp	Thr	His	Val	Gln	Arg	Glu	His
5060						5065					5070			
Asn	Leu	Ala	Asn	Tyr	Met	Phe	Phe	Leu	Met	His	Leu	Ile	Asn	Lys
5075						5080					5085			
Pro	Asp	Thr	Glu	Tyr	Thr	Gly	Gln	Glu	Thr	Tyr	Val	Trp	Asn	Met
5090						5095					5100			

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 Met Ala Glu Ala Glu Gly Gly Ala Ser Glu Gln Asp Asp Val Ser Phe
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 Leu Arg Thr Glu Asp Met Val Cys Leu Ser Cys Thr Ala Thr Gly Glu
 20 25 30
 agg gtg tgc ctg gct gcc gaa ggt ttc ggc aac cgg cac tgc ttc ctg 144
 Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu
 35 40 45
 gag aat att gcc gac aag aac ata cca cct gat ctg tcg cag tgt gtg 192
 Glu Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val
 50 55 60
 ttt gtc atc gaa cag gcg ctt tca gta aga gct tta cag gag ttg gta 240
 Phe Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val
 65 70 75 80
 acg gct gcg ggt tct gaa act ggt aaa ggt acc ggt tct ggt cat cgt 288
 Thr Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg
 85 90 95
 acg cta cta tac ggc aat gct att ctt ttg cga cat ctt aac agt gat 336
 Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Leu Asn Ser Asp
 100 105 110
 atg tac ctg gcc tgc ctg tcg aca tca tca tcc cag gat aag ccg gcc 384
 Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Gln Asp Lys Pro Ala
 115 120 125
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 Phe Asp Val Gly Leu Gln Gln His Ser Gln Gly Glu Ala Cys Trp Trp
 130 135 140
 acc ctg cat cct gcc agc aaa cag aga tcc gag ggt gag aag gtg cga 480
 Thr Leu His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg

145	150	155	160	
gtc gga gat gac ttg att ctg gtc tcc gtg gct act gag aga tac ttg				528
Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu	165	170	175	
cac aca acg aaa gag aac gaa gta tcg ata gtg aac gcg tcg ttc cac				576
His Thr Thr Lys Glu Asn Glu Val Ser Ile Val Asn Ala Ser Phe His	180	185	190	
gtg acc cac tgg tcg gta cag ccc tat ggt act ggt ata tcg agg atg				624
Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met	195	200	205	
aag tat gta ggc tat gtg ttc gga ggt gat gtg ctg cgg ttc ttc cat				672
Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His	210	215	220	
gga ggt gac gag tgt ctc act ata cct agt acc tgg aca aag gat ggg				720
Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Thr Lys Asp Gly	225	230	235	240
ggg caa aat atc gta gtc tac gaa gga ggt tca gtg atg tct caa gcc				768
Gly Gln Asn Ile Val Val Tyr Glu Gly Gly Ser Val Met Ser Gln Ala	245	250	255	
cgg tct tta tgg cgc ctg gag ctg gct aga acc aag tgg gcc gga ggt				816
Arg Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly	260	265	270	
ttc att aac tgg tac cat cct atg agg att cgg cac atc act act gga				864
Phe Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Ile Thr Thr Gly	275	280	285	
aga tat ctc gga gta aac gac cag aat gag ctg tat tta gtt agc aga				912
Arg Tyr Leu Gly Val Asn Asp Gln Asn Glu Leu Tyr Leu Val Ser Arg	290	295	300	
gag gaa gcc aca aca gct tcc tgt gcc ttc tgc ctg cgt cag gag aag				960
Glu Glu Ala Thr Thr Ala Ser Cys Ala Phe Cys Leu Arg Gln Glu Lys	305	310	315	320
gat gat cag aaa caa gtg tta gaa gac aag gac ttg gag gtc ata ggc				1008
Asp Asp Gln Lys Gln Val Leu Glu Asp Lys Asp Leu Glu Val Ile Gly	325	330	335	
gcg ccc atc atc aag tac ggt gac tcc acc gtc att gtg cag cat tcc				1056
Ala Pro Ile Ile Lys Tyr Gly Asp Ser Thr Val Ile Val Gln His Ser	340	345	350	
gag act ggc ttg tgg ctg tct tat aag tct tac gaa acg aag aag gag				1104
Glu Thr Gly Leu Trp Leu Ser Tyr Lys Ser Tyr Glu Thr Lys Lys Glu	355	360	365	
gga gtg ggt aaa gta gaa gag aag caa gcg att ctc cac gag gaa ggc				1152
Gly Val Gly Lys Val Glu Glu Lys Gln Ala Ile Leu His Glu Glu Gly	370	375	380	
aag atg gac gac ggc ctc gac ttc tcc agg tca cag gag gaa gaa tct				1200
Lys Met Asp Asp Gly Leu Asp Phe Ser Arg Ser Gln Glu Glu Glu Ser				

385		390		395		400	
agg act gct cga gtt atc aga aag tgt tct tcg ctg ttc act aag ttt							1248
Arg Thr Ala Arg Val Ile Arg Lys Cys Ser Ser Leu Phe Thr Lys Phe							
	405			410		415	
atc aat ggt ctg gaa act cta caa gag aac cgt cgt cac tcg atg ttc							1296
Ile Asn Gly Leu Glu Thr Leu Gln Glu Asn Arg Arg His Ser Met Phe							
	420			425		430	
ttc gcg tca gtg aac ctg ggc gag atg gtg atg tgc ctc gag gat ctc							1344
Phe Ala Ser Val Asn Leu Gly Glu Met Val Met Cys Leu Glu Asp Leu							
	435			440		445	
atc aac tac ttc gca caa ccc gat gaa gat atg gaa cac gaa gaa aag							1392
Ile Asn Tyr Phe Ala Gln Pro Asp Glu Asp Met Glu His Glu Glu Lys							
	450			455		460	
caa aac aaa ttc cgc gcc ctc cgc aac cgt cag gac ctg ttc caa gag							1440
Gln Asn Lys Phe Arg Ala Leu Arg Asn Arg Gln Asp Leu Phe Gln Glu							
	465			470		475	480
gaa ggc ata ctg aac ctg atc ctc gaa gct ata gac aag atc aac gtc							1488
Glu Gly Ile Leu Asn Leu Ile Leu Glu Ala Ile Asp Lys Ile Asn Val							
	485			490		495	
atc acg tct cag ggg ttc ctg gct ggt ttc ctg gcg gga gac gaa tct							1536
Ile Thr Ser Gln Gly Phe Leu Ala Gly Phe Leu Ala Gly Asp Glu Ser							
	500			505		510	
gga cag agc tgg gaa atg ata tct gga tat ttg tat cag ttg ttg gcg							1584
Gly Gln Ser Trp Glu Met Ile Ser Gly Tyr Leu Tyr Gln Leu Leu Ala							
	515			520		525	
gca ata ata aag ggc aac cac acg aac tgc gcg cag ttc gcg aac tcg							1632
Ala Ile Ile Lys Gly Asn His Thr Asn Cys Ala Gln Phe Ala Asn Ser							
	530			535		540	
aac cgg ctg aac tgg ctg ttc tcg cgc ctc ggc tcg cag gcc tcg ggc							1680
Asn Arg Leu Asn Trp Leu Phe Ser Arg Leu Gly Ser Gln Ala Ser Gly							
	545			550		555	560
gag ggc act ggc atg ctc gac gtg ctg cac tgc gtg ctc atc gac tcg							1728
Glu Gly Thr Gly Met Leu Asp Val Leu His Cys Val Leu Ile Asp Ser							
	565			570		575	
cct gaa gcg ttg aat atg atg agg gac gaa cac ata aaa gtg ata atc							1776
Pro Glu Ala Leu Asn Met Met Arg Asp Glu His Ile Lys Val Ile Ile							
	580			585		590	
tct cta tta gaa aag cac ggg cgc gac cct aaa gta cta gat gtg tta							1824
Ser Leu Leu Glu Lys His Gly Arg Asp Pro Lys Val Leu Asp Val Leu							
	595			600		605	
tgt tca ctc tgc gtc ggt aac ggc gtc gcg gtg cgc tcg tca cag aac							1872
Cys Ser Leu Cys Val Gly Asn Gly Val Ala Val Arg Ser Ser Gln Asn							
	610			615		620	
aac atc tgt gac tat ttg ctg ccc ggc aag aac ctg ttg ctg caa act							1920
Asn Ile Cys Asp Tyr Leu Leu Pro Gly Lys Asn Leu Leu Leu Gln Thr							

625		630		635		640	
gcg ctt gta gat	cac gta tct agt gtc	cgt ccg aac atc ttc gtg ggt	1968				
Ala Leu Val Asp	His Val Ser Ser Val Arg	Pro Asn Ile Phe Val Gly					
	645	650	655				
cga gta gaa ggg	tcg gca gtg tac cgc	aaa tgg tac ttc gaa gtg act	2016				
Arg Val Glu Gly	Ser Ala Val Tyr Arg	Lys Trp Tyr Phe Glu Val Thr					
	660	665	670				
atg gac cac ata	gag aag acc aca cat	atg ata cca cat cta cgc ata	2064				
Met Asp His Ile	Glu Lys Thr Thr His	Met Ile Pro His Leu Arg Ile					
	675	680	685				
gga tgg gct aac	act act ggc tac gtc	cca tac ccg ggt ggt ggt gaa	2112				
Gly Trp Ala Asn	Thr Thr Gly Tyr Val	Pro Tyr Pro Gly Gly Gly Glu					
	690	695	700				
aag tgg gga ggt	aac ggc gtg gga gac	gac ctg tac tcg tac ggg ttc	2160				
Lys Trp Gly Gly	Asn Gly Val Gly Asp	Asp Leu Tyr Ser Tyr Gly Phe					
	705	710	715				
gac ggc gcc tac	ctc tgg tcc ggc ggg	agg aaa act ccc gtc aat agg	2208				
Asp Gly Ala Tyr	Leu Trp Ser Gly Gly	Arg Lys Thr Pro Val Asn Arg					
	725	730	735				
act cat gct gaa	gag cct tat att agg	aaa ggt gac gtg ata ggt tgt	2256				
Thr His Ala Glu	Glu Pro Tyr Ile Arg	Lys Gly Asp Val Ile Gly Cys					
	740	745	750				
gcg tta gac ctg	acg gta ccc atc atc	aac ttc atg ttc aac gga gtg	2304				
Ala Leu Asp Leu	Thr Val Pro Ile Ile	Asn Phe Met Phe Asn Gly Val					
	755	760	765				
cgg gtg acg gga	tcc ttc acc aac ttc	aat ctg gaa ggc atg ttc ttc	2352				
Arg Val Thr Gly	Ser Phe Thr Asn Phe	Asn Leu Glu Gly Met Phe Phe					
	770	775	780				
ccg gtc atc agc	tgc tct agt aaa ttg	agt tgc cgg ttc ctg ctg ggc	2400				
Pro Val Ile Ser	Cys Ser Ser Lys Leu	Ser Cys Arg Phe Leu Leu Gly					
	785	790	795				
ggg gaa cat ggt	aga ctc cgg tac	gcg gct cca gaa ggc tac tcc ccg	2448				
Gly Glu His Gly	Arg Leu Arg Tyr Ala	Ala Pro Glu Gly Tyr Ser Pro					
	805	810	815				
ctg gtg gag tct	ctc ctg ccg cag	cag atc ctc agc ctg gag cct tgc	2496				
Leu Val Glu Ser	Leu Leu Pro Gln Gln	Ile Leu Ser Leu Glu Pro Cys					
	820	825	830				
ttc tac ttc ggc	aac ctg tcc aag	cgc gcc ctg gct gga ccc ccg cta	2544				
Phe Tyr Phe Gly	Asn Leu Ser Lys	Arg Ala Leu Ala Gly Pro Pro Leu					
	835	840	845				
gta cag gac gat	acg gct ttt gtg	cct aca cct gtt gac act tta cag	2592				
Val Gln Asp Asp	Thr Ala Phe Val	Pro Thr Pro Val Asp Thr Leu Gln					
	850	855	860				
att act ctg cct	aca tat gtg gaa	caa atc aga gac aag cta gct gaa	2640				
Ile Thr Leu Pro	Thr Tyr Val Glu	Gln Ile Arg Asp Lys Leu Ala Glu					

865	870	875	880	
aat ata cac gaa atg tgg gct atg aat aag atc gaa gca ggc tgg atg				2688
Asn Ile His Glu Met Trp Ala Met Asn Lys Ile Glu Ala Gly Trp Met				
	885	890	895	
tac ggc gat cag aga gaa gac ttg cac aag atc cac ccc tgc ctc gtg				2736
Tyr Gly Asp Gln Arg Glu Asp Leu His Lys Ile His Pro Cys Leu Val				
	900	905	910	
ccc ttc gag cgt ctc ccg ccc gct gag aaa cga tac gac ata caa ctc				2784
Pro Phe Glu Arg Leu Pro Pro Ala Glu Lys Arg Tyr Asp Ile Gln Leu				
	915	920	925	
gct gtg cag aca ctc aag aca atc ctg gct ctg ggc tac tac atc agc				2832
Ala Val Gln Thr Leu Lys Thr Ile Leu Ala Leu Gly Tyr Tyr Ile Ser				
	930	935	940	
tta gat aag cct cca gca cgc atc cgc aac gtt cgt ctg ccc aac gaa				2880
Leu Asp Lys Pro Pro Ala Arg Ile Arg Asn Val Arg Leu Pro Asn Glu				
	945	950	955	960
cct ttc atg cag tcc aac ggc tac aag cca gca cca ctc gac ctg agt				2928
Pro Phe Met Gln Ser Asn Gly Tyr Lys Pro Ala Pro Leu Asp Leu Ser				
	965	970	975	
gct gtc acc ctg aca ccc aag atg gat gag cta gta gac cag ctg gct				2976
Ala Val Thr Leu Thr Pro Lys Met Asp Glu Leu Val Asp Gln Leu Ala				
	980	985	990	
gag aac acc cac aac ctt tgg gcc agg gag agg ata cag cag gga tgg				3024
Glu Asn Thr His Asn Leu Trp Ala Arg Glu Arg Ile Gln Gln Gly Trp				
	995	1000	1005	
act tac gga ctt aat gag gac tcg gac atg cat cga tcc ccg cac				3069
Thr Tyr Gly Leu Asn Glu Asp Ser Asp Met His Arg Ser Pro His				
	1010	1015	1020	
ctg gtg cca tac ccg aag gtt gac gat gcc atc aag aag gcc aac				3114
Leu Val Pro Tyr Pro Lys Val Asp Asp Ala Ile Lys Lys Ala Asn				
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Arg Asp Thr Ala Ser Glu Thr Val Arg Thr Leu Leu Val Tyr Gly				
	1040	1045	1050	
tat atg ctg gac ccg cct act ggg gag cag cat gaa gca ctc ttg				3204
Tyr Met Leu Asp Pro Pro Thr Gly Glu Gln His Glu Ala Leu Leu				
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Leu Glu Ala Ser Lys Gln Lys Gln Ala Asp Phe Arg Thr Tyr Arg				
	1070	1075	1080	
gct gag aag aac tat gcc gtc agc tct ggg aag tgg tac ttc gag				3294
Ala Glu Lys Asn Tyr Ala Val Ser Ser Gly Lys Trp Tyr Phe Glu				
	1085	1090	1095	
ttt gag atc cta acg gct gga cct atg agg gtc ggc tgg gct cac				3339
Phe Glu Ile Leu Thr Ala Gly Pro Met Arg Val Gly Trp Ala His				

1100	1105	1110	
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act gag tct ttc ggc aag caa Thr Glu Ser Phe Gly Lys Gln 1145	tgg gct gtt ggt gac Trp Ala Val Gly Asp 1150	gta gtg ggg Val Val Gly 1155	3474
gtg ttc cta gat ctc att gat Val Phe Leu Asp Leu Ile Asp 1160	aag acg ata agt ttc Lys Thr Ile Ser Phe 1165	tca ctc aac Ser Leu Asn 1170	3519
ggt gag tta ttg atg gat gct Gly Glu Leu Leu Met Asp Ala 1175	ctt ggc gga gag act Leu Gly Gly Glu Thr 1180	acg ttt gct Thr Phe Ala 1185	3564
gat gtc cag ggt gac aac ttt Asp Val Gln Gly Asp Asn Phe 1190	gta cct gct tgc acg Val Pro Ala Cys Thr 1195	ctt ggt gtc Leu Gly Val 1200	3609
ggc caa aaa gcc agg tta aca Gly Gln Lys Ala Arg Leu Thr 1205	tac ggt cag gac gta Tyr Gly Gln Asp Val 1210	aac acg ctg Asn Thr Leu 1215	3654
aaa tac ttc aca aca tgt ggt Lys Tyr Phe Thr Thr Cys Gly 1220	ctg cag gag gga tat Leu Gln Glu Gly Tyr 1225	gaa cca ttc Glu Pro Phe 1230	3699
tgt gtc aat atg aag aga gac Cys Val Asn Met Lys Arg Asp 1235	gtg act cac tgg tac Val Thr His Trp Tyr 1240	acc aaa gac Thr Lys Asp 1245	3744
cag ccg atc ttc gag aat acg Gln Pro Ile Phe Glu Asn Thr 1250	gat gag atg atc gac Asp Glu Met Ile Asp 1255	acc aga ata Thr Arg Ile 1260	3789
gat gtg acc agg ata cca gct Asp Val Thr Arg Ile Pro Ala 1265	ggt tca gat aca cct Gly Ser Asp Thr Pro 1270	cca tgc ctc Pro Cys Leu 1275	3834
aag att tcc cac aac acg ttt Lys Ile Ser His Asn Thr Phe 1280	gag acg atg gag aaa Glu Thr Met Glu Lys 1285	gct aac tgg Ala Asn Trp 1290	3879
gag ttc tta cgt ctc tca ctg Glu Phe Leu Arg Leu Ser Leu 1295	cct gtc atc tgc cat Pro Val Ile Cys His 1300	aac gag ttc Asn Glu Phe 1305	3924
att gac gag gca gaa aaa gcc Ile Asp Glu Ala Glu Lys Ala 1310	agg cgt tgg gta gaa Arg Arg Trp Val Glu 1315	atc aag gac Ile Lys Asp 1320	3969
cgc caa cag atc cta atg aaa Arg Gln Gln Ile Leu Met Lys 1325	gag gca gtt gaa gct Glu Ala Val Glu Ala 1330	cag atg ccc Gln Met Pro 1335	4014

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gcc cat att gac cag atc atg Ala His Ile Asp Gln Ile Met 1340	agg agc ggt ttc acc Arg Ser Gly Phe Thr 1345	atg aac gat Met Asn Asp 1350	4059
att aaa ggt ttg cac tac gaa Ile Lys Gly Leu His Tyr Glu 1355	gac aat cag gaa gag Asp Asn Gln Glu 1360	ttg ccc agc Leu Pro Ser 1365	4104
tcc aag atg aag cgc ctg cct Ser Lys Met Lys Arg Leu Pro 1370	tca agg cca cca cgt Ser Arg Pro Pro Arg 1375	aag gga tcc Lys Gly Ser 1380	4149
atg aca aga ggt gtt act ata Met Thr Arg Gly Val Thr Ile 1385	caa aat tac aat aat Gln Asn Tyr Asn Asn 1390	ttg caa cca Leu Gln Pro 1395	4194
ggt caa gtc aat ggc atg cac Gly Gln Val Asn Gly Met His 1400	cgg tcg acc agt gaa Arg Ser Thr Ser Glu 1405	gct gaa atg Ala Glu Met 1410	4239
gcc aag tat gac ttg gga gcg Ala Lys Tyr Asp Leu Gly Ala 1415	caa ggt ttg acg cct Gln Gly Leu Thr Pro 1420	gat gat aag Asp Asp Lys 1425	4284
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cgc ggc gaa agc agt gat cgt Arg Gly Glu Ser Ser Asp Arg 1445	gcc aaa tcc cgt aaa Ala Lys Ser Arg Lys 1450	tcc aaa act Ser Lys Thr 1455	4374
cca gat ccc ttc agc gat acc Pro Asp Pro Phe Ser Asp Thr 1460	gag gta tca cca gaa Glu Val Ser Pro Glu 1465	cgt ggt gct Arg Gly Ala 1470	4419
cga agg cct aac cct cag atc Arg Arg Pro Asn Pro Gln Ile 1475	aaa gtg tca cag gcc Lys Val Ser Gln Ala 1480	aat caa aga Asn Gln Arg 1485	4464
tat aac ggc atg aac gcg cgt Tyr Asn Gly Met Asn Ala Arg 1490	cct agc agg acc aac Pro Ser Arg Thr Asn 1495	ttg tat ggg Leu Tyr Gly 1500	4509
agc caa gtt ggt tta aac atg Ser Gln Val Gly Leu Asn Met 1505	gcg acg ccc acg caa Ala Thr Pro Thr Gln 1510	gac agg aag Asp Arg Lys 1515	4554
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ggc aat gag atc ttc gat gca Gly Asn Glu Ile Phe Asp Ala 1535	gag tgc ttg aag ctc Glu Cys Leu Lys Leu 1540	atc aat gag Ile Asn Glu 1545	4644
tac ttt tat gga gtc agg atc Tyr Phe Tyr Gly Val Arg Ile 1550	tac cca ggt cag gac Tyr Pro Gly Gln Asp 1555	cca aca cac Pro Thr His 1560	4689

1550	1555	1560	
gtg tac atc ggc tgg gtg acc Val Tyr Ile Gly Trp Val Thr 1565	acc cag tac cac ttg Thr Gln Tyr His Leu 1570	cac tct aag His Ser Lys 1575	4734
gac ttc aac cag agc aag gtc Asp Phe Asn Gln Ser Lys Val 1580	acc aag tcc tct gtc Thr Lys Ser Ser Val 1585	atc atc act Ile Ile Thr 1590	4779
gat gat tac gat agg gtt gtt Asp Asp Tyr Asp Arg Val Val 1595	gag aac gta aac cgg Glu Asn Val Asn Arg 1600	cag tcc tgc Gln Ser Cys 1605	4824
tac atg gtg cga gct gac gag Tyr Met Val Arg Ala Asp Glu 1610	cta tac aac gag gtg Leu Tyr Asn Glu Val 1615	atg gcg gaa Met Ala Glu 1620	4869
gcc acg gcc aag ggc gcc tcg Ala Thr Ala Lys Gly Ala Ser 1625	cag ggc atg ttc atc Gln Gly Met Phe Ile 1630	ggc tgc tcc Gly Cys Ser 1635	4914
gtc gac acc tcc acc ggc agc Val Asp Thr Ser Thr Gly Ser 1640	gtg tcc ttc acc tgc Val Ser Phe Thr Cys 1645	gag ggg aag Glu Gly Lys 1650	4959
gac acc agc ttc aag ttc aag Asp Thr Ser Phe Lys Phe Lys 1655	atg gaa cca gaa aca Met Glu Pro Glu Thr 1660	aaa ctg ttc Lys Leu Phe 1665	5004
ccc gcg atc ttc gta gaa gcg Pro Ala Ile Phe Val Glu Ala 1670	acc tcc aag gag atc Thr Ser Lys Glu Ile 1675	ctg cag ata Leu Gln Ile 1680	5049
gag ctg ggc aga tca gcc acc Glu Leu Gly Arg Ser Ala Thr 1685	agc ctt cca cta tca Ser Leu Pro Leu Ser 1690	gcc gct gta Ala Ala Val 1695	5094
cta cca acg agt gat aag cat Leu Pro Thr Ser Asp Lys His 1700	gtc ata cca cag ttc Val Ile Pro Gln Phe 1705	cca ccg agg Pro Pro Arg 1710	5139
ttg aag gtg cag tgc ttg aaa Leu Lys Val Gln Cys Leu Lys 1715	cca cat cag tgg gct Pro His Gln Trp Ala 1720	agg gta ccg Arg Val Pro 1725	5184
aac caa tcc cta caa gtc cac Asn Gln Ser Leu Gln Val His 1730	gct ctg aag ttg tcc Ala Leu Lys Leu Ser 1735	gac atc cgc Asp Ile Arg 1740	5229
ggg tgg tcg atg ctg tgt gaa Gly Trp Ser Met Leu Cys Glu 1745	gac gca gtg tct atg Asp Ala Val Ser Met 1750	ctg gct ttg Leu Ala Leu 1755	5274
cac ata ccg gag gaa gat cgt His Ile Pro Glu Glu Asp Arg 1760	tgc ata gac att ttg Cys Ile Asp Ile Leu 1765	gag ctg ata Glu Leu Ile 1770	5319
gaa atg gac aaa ctt tta agt Glu Met Asp Lys Leu Leu Ser 1775	ttc cat tct cac acc Phe His Ser His Thr 1780	ctc acg tta Leu Thr Leu 1785	5364

1775	1780	1785	
tac gct gct tta tgt tac Tyr Ala Ala Leu Cys Tyr 1790	cag agt aac tac agg Gln Ser Asn Tyr Arg 1795	gct gcc cac gct Ala Ala His Ala 1800	5409
ctg tgc acg cac gtg gac Leu Cys Thr His Val Asp 1805	cag aag cag ctg ctg Gln Lys Gln Leu Leu 1810	tac gcg atc cag Tyr Ala Ile Gln 1815	5454
tcg cag tac atg tcg ggc ccg Ser Gln Tyr Met Ser Gly Pro 1820	ctg cgc caa ggc ttc Leu Arg Gln Gly Phe 1825	tac gat ctt Tyr Asp Leu 1830	5499
ctc ata gcg ctg cat ctc gag Leu Ile Ala Leu His Leu Glu 1835	tcg cat gcc acc acc Ser His Ala Thr Thr 1840	atg gag gcg Met Glu Ala 1845	5544
tgt aag aac gag ttc gtg atc Cys Lys Asn Glu Phe Val Ile 1850	ccg ctg ggc ccg gag Pro Leu Gly Pro Glu 1855	ctg aag gcg Leu Lys Ala 1860	5589
ctg tac gag gag ccc gac atg Leu Tyr Glu Glu Pro Asp Met 1865	gga cac tcg ctg cgc Gly His Ser Leu Arg 1870	tcg ctg cag Ser Leu Gln 1875	5634
acc gag agc gtg cgg ccg cag Thr Glu Ser Val Arg Pro Gln 1880	atg aag atg acc gat Met Lys Met Thr Asp 1885	atc gct gaa Ile Ala Glu 1890	5679
agt ata acc gag atc agc aac Ser Ile Thr Glu Ile Ser Asn 1895	cta tac tcg ccg tac Leu Tyr Ser Pro Tyr 1900	ttc ccg ctg Phe Pro Leu 1905	5724
gag gtg gtg cgc gag ttc gtg Glu Val Val Arg Glu Phe Val 1910	atg cag gcg ctg gct Met Gln Ala Leu Ala 1915	gaa gcc gtg Glu Ala Val 1920	5769
gag acc aac cag gtg cac aac Glu Thr Asn Gln Val His Asn 1925	cgg gat cct gtc ggg Arg Asp Pro Val Gly 1930	ggg agc aat Gly Ser Asn 1935	5814
gag aac ctg ttc ctg cct cta Glu Asn Leu Phe Leu Pro Leu 1940	ata aag ctg gtg gac Ile Lys Leu Val Asp 1945	cgt ctt cta Arg Leu Leu 1950	5859
cta gtc ggc atg atg cgc gac Leu Val Gly Met Met Arg Asp 1955	gag gat gtg gag aag Glu Asp Val Glu Lys 1960	cta ctc atc Leu Leu Ile 1965	5904
atg acc aac cct gag acg tgg Met Thr Asn Pro Glu Thr Trp 1970	gac ccc tcg ttt gat Asp Pro Ser Phe Asp 1975	aaa gag ggt Lys Glu Gly 1980	5949
aaa gac gag cac cgc aaa ggt Lys Asp Glu His Arg Lys Gly 1985	cta ctc cac atg aaa Leu Leu His Met Lys 1990	atg gcg gaa Met Ala Glu 1995	5994
ggc gct aag ctg cag atg tgt Gly Ala Lys Leu Gln Met Cys 2000	tac tta ctg caa cat Tyr Leu Leu Gln His 2005	ctc aac gac Leu Asn Asp 2010	6039

2000			2005			2010									
ata Ile	cag Gln	ctg Leu	cgg Arg	cac His	agg Arg	gtc Val	gaa Glu	gct Ala	atc Ile	att Ile	gcg Ala	ttt Phe	gcg Ala	cat His	6084
2015			2020			2025									
gac Asp	ttc Phe	gtc Val	ggg Gly	gat Asp	cta Leu	cag Gln	act Thr	gat Asp	cag Gln	ctc Leu	aga Arg	cgt Arg	tac Tyr	acg Thr	6129
2030			2035			2040									
gaa Glu	atc Ile	aag Lys	cag Gln	tcg Ser	gac Asp	ttg Leu	ccg Pro	agc Ser	gcg Ala	gtg Val	gcc Ala	gct Ala	aag Lys	aag Lys	6174
2045			2050			2055									
acc Thr	agg Arg	gag Glu	ttc Phe	cgg Arg	tgt Cys	ccg Pro	cct Pro	aga Arg	gaa Glu	cag Gln	atg Met	aac Asn	gct Ala	ata Ile	6219
2060			2065			2070									
ttg Leu	agt Ser	ttc Phe	aag Lys	cac His	tta Leu	gag Glu	gag Glu	gag Glu	gac Asp	aag Lys	gag Glu	aac Asn	tgt Cys	ccg Pro	6264
2075			2080			2085									
tgc Cys	ggc Gly	gag Glu	gag Glu	ctg Leu	atc Ile	gcg Ala	cgc Arg	atg Met	aac Asn	gag Glu	ttc Phe	cac His	gac Asp	acc Thr	6309
2090			2095			2100									
ctc Leu	atg Met	gcg Ala	cac His	gtc Val	tcg Ser	ctg Leu	cac His	gcg Ala	ctg Leu	cag Gln	gag Glu	ccc Pro	gat Asp	gcc Ala	6354
2105			2110			2115									
gcg Ala	gaa Glu	aat Asn	caa Gln	gaa Glu	cct Pro	gaa Glu	gca Ala	aaa Lys	ccg Pro	ggg Gly	gca Ala	ttc Phe	ggc Gly	aag Lys	6399
2120			2125			2130									
cta Leu	tac Tyr	aac Asn	att Ile	atc Ile	aat Asn	acg Thr	gtc Val	aag Lys	gaa Glu	tta Leu	gaa Glu	gag Glu	gaa Glu	gct Ala	6444
2135			2140			2145									
aag Lys	gca Ala	ata Ile	gaa Glu	gag Glu	cct Pro	ccg Pro	aag Lys	aag Lys	acg Thr	cct Pro	gag Glu	gag Glu	aag Lys	ttc Phe	6489
2150			2155			2160									
cgt Arg	aag Lys	gtc Val	ctc Leu	atc Ile	cag Gln	acc Thr	ata Ile	gtg Val	aac Asn	tgg Trp	gct Ala	gag Glu	gag Glu	tcg Ser	6534
2165			2170			2175									
cag Gln	ata Ile	gaa Glu	aca Thr	ccc Pro	aaa Lys	ctc Leu	gtc Val	aga Arg	gaa Glu	atg Met	ttc Phe	agc Ser	ctt Leu	ctt Leu	6579
2180			2185			2190									
gtc Val	cgc Arg	cag Gln	tac Tyr	gac Asp	gca Ala	gta Val	ggc Gly	gag Glu	ctg Leu	atc Ile	cgc Arg	gct Ala	tta Leu	gag Glu	6624
2195			2200			2205									
aag Lys	aca Thr	tac Tyr	gtc Val	atc Ile	aac Asn	gct Ala	aag Lys	acc Thr	aag Lys	ttg Leu	gat Asp	gtc Val	gcg Ala	ggg Gly	6669
2210			2215			2220									
atg Met	tgg Trp	gtg Val	ggg Gly	ctc Leu	agc Ser	cag Gln	atc Ile	cga Arg	gcc Ala	ctc Leu	ctg Leu	ccg Pro	gtg Val	cag Gln	6714

2225						2230						2235						
atg	agc	cag	gag	gaa	gag	gaa	ctc	atg	agg	aag	agg	ctc	tgg	aaa				6759
Met	Ser	Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys				
2240						2245						2250						
ctt	gtg	aac	aac	cac	acg	ttc	ttc	cag	cat	cca	gac	tta	atc	aga				6804
Leu	Val	Asn	Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg				
2255						2260						2265						
gtg	ctc	cgc	gtg	cac	gag	aac	gtg	atg	gcg	gtg	atg	atg	aac	acg				6849
Val	Leu	Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr				
2270						2275						2280						
ctc	ggc	cgc	cgc	gcg	cag	gcg	cag	tcc	gac	gca	cag	ccc	tcc	tcg				6894
Leu	Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Gln	Pro	Ser	Ser				
2285						2290						2295						
cag	cct	gtc	gca	gag	gat	aac	aag	gag	aag	gac	aca	tca	cac	gag				6939
Gln	Pro	Val	Ala	Glu	Asp	Asn	Lys	Glu	Lys	Asp	Thr	Ser	His	Glu				
2300						2305						2310						
atg	gtg	gta	gct	tgc	tgc	cgt	ttc	ctc	tgc	tac	ttc	tgc	cgc	acc				6984
Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	Arg	Thr				
2315						2320						2325						
ggg	aga	cag	aac	cag	aag	gca	atg	ttc	gac	cac	ttc	gac	ttc	ctc				7029
Gly	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	Phe	Leu				
2330						2335						2340						
ctg	gag	aac	tcc	aac	atc	ttg	ctg	tcc	aga	cct	tcg	ctg	aga	gga				7074
Leu	Glu	Asn	Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	Arg	Gly				
2345						2350						2355						
tcc	acg	cct	cta	gac	gtg	gct	tat	tcc	agt	ctt	atg	gag	aac	act				7119
Ser	Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu	Asn	Thr				
2360						2365						2370						
gaa	ctg	gcg	ctg	gct	ttg	aga	gag	cac	tac	ctg	gag	aag	ata	gca				7164
Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	Ile	Ala				
2375						2380						2385						
gta	tac	ctg	tcc	cgt	tgt	ggg	ctg	cag	agc	aac	tcg	gag	ctg	gtg				7209
Val	Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu	Leu	Val				
2390						2395						2400						
gag	aag	ggg	tac	cct	gac	ctc	ggc	tgg	gat	ccg	gtc	gag	ggg	gag				7254
Glu	Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu	Gly	Glu				
2405						2410						2415						
cgg	tat	ctt	gac	ttc	ctg	agg	ttc	tgt	gtt	tgg	gta	aac	ggc	gaa				7299
Arg	Tyr	Leu	Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn	Gly	Glu				
2420						2425						2430						
agc	gta	gaa	gaa	aac	gcg	aat	cta	gtg	atc	cgt	ctc	ctg	atc	cgt				7344
Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg				
2435						2440						2445						
cgt	ccg	gag	tgc	ctc	ggg	ccg	gcg	ctg	cgc	ggc	gag	ggc	gag	ggc				7389
Arg	Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly				

2450	2455	2460	
ctg ctg aag gct atc gtc gac gcc aac aag atg agc gag agg atc			7434
Leu Leu Lys Ala Ile Val Asp Ala Asn Lys Met Ser Glu Arg Ile			
2465	2470	2475	
gcc gac agg agg aag ctc agg gaa atg gag cag gaa gga gat gtt			7479
Ala Asp Arg Arg Lys Leu Arg Glu Met Glu Gln Glu Gly Asp Val			
2480	2485	2490	
aac ttc agc cac cct ctc ccg gag tca gat gag gat gag gac tac			7524
Asn Phe Ser His Pro Leu Pro Glu Ser Asp Glu Asp Glu Asp Tyr			
2495	2500	2505	
ata gac acg ggg gcc gcc atc ttg aac ttc tac tgt aca ttg gta			7569
Ile Asp Thr Gly Ala Ala Ile Leu Asn Phe Tyr Cys Thr Leu Val			
2510	2515	2520	
gat ctg ctc gga aga tgt gct cct gat gct ggc gtt att gct ctc			7614
Asp Leu Leu Gly Arg Cys Ala Pro Asp Ala Gly Val Ile Ala Leu			
2525	2530	2535	
ggc aag aac gag tct ctc cgt gcc cgc gct atc ctg cgg tcg ctg			7659
Gly Lys Asn Glu Ser Leu Arg Ala Arg Ala Ile Leu Arg Ser Leu			
2540	2545	2550	
gtg ccg ctg gag gac ctg cag gga gtg ctg agc ctg cgc ttc acg			7704
Val Pro Leu Glu Asp Leu Gln Gly Val Leu Ser Leu Arg Phe Thr			
2555	2560	2565	
ctc aac aac cct gct gct gga gag gaa cga ccc aag tct gat atg			7749
Leu Asn Asn Pro Ala Ala Gly Glu Glu Arg Pro Lys Ser Asp Met			
2570	2575	2580	
cca tcg ggt ctg atc ccg gga cac aag cag agc gtg gga ctg ttc			7794
Pro Ser Gly Leu Ile Pro Gly His Lys Gln Ser Val Gly Leu Phe			
2585	2590	2595	
ctg gag aga gtg tac ggc atc gaa act cag gag ttg ttc tac aaa			7839
Leu Glu Arg Val Tyr Gly Ile Glu Thr Gln Glu Leu Phe Tyr Lys			
2600	2605	2610	
ctg ctg gag gaa gcc ttc ctg cct gac ctc agg gct gcc act atg			7884
Leu Leu Glu Glu Ala Phe Leu Pro Asp Leu Arg Ala Ala Thr Met			
2615	2620	2625	
ctg gac agg aac gac ggc tgc gaa tca gac atg gcg ctg tcg atg			7929
Leu Asp Arg Asn Asp Gly Cys Glu Ser Asp Met Ala Leu Ser Met			
2630	2635	2640	
aac cgc tac atc ggc aac tcg atc ctg ccg ctg ctg atc aaa cac			7974
Asn Arg Tyr Ile Gly Asn Ser Ile Leu Pro Leu Leu Ile Lys His			
2645	2650	2655	
gct tac ttc tac aac gaa gct gag aac tac gcc agt tta ttg gat			8019
Ala Tyr Phe Tyr Asn Glu Ala Glu Asn Tyr Ala Ser Leu Leu Asp			
2660	2665	2670	
gcc acg cta cat act gtt tat agg tta tcg aag aac cgc atg tta			8064
Ala Thr Leu His Thr Val Tyr Arg Leu Ser Lys Asn Arg Met Leu			

2675	2680	2685	
acc aag ggt caa cgt gaa gcg gtg tca gac ttc cta gtg gcg ctt			8109
Thr Lys Gly Gln Arg Glu Ala Val Ser Asp Phe Leu Val Ala Leu			
2690	2695	2700	
act tca gcg atg cag ccc tct atg ttg ctc aag ctg ctc agg aaa			8154
Thr Ser Ala Met Gln Pro Ser Met Leu Leu Lys Leu Leu Arg Lys			
2705	2710	2715	
ttg acg gtc gac gtg tct aaa ctg tcc gag tat act act gtc gct			8199
Leu Thr Val Asp Val Ser Lys Leu Ser Glu Tyr Thr Thr Val Ala			
2720	2725	2730	
ctt agg ctg ctg acg ctg cac tac gag cgc tgc gcg aag tac tac			8244
Leu Arg Leu Leu Thr Leu His Tyr Glu Arg Cys Ala Lys Tyr Tyr			
2735	2740	2745	
ggc agc acg ggc gcg ggg cag ggc gcg ttc ggc gcg tcg tcg gac			8289
Gly Ser Thr Gly Ala Gly Gln Gly Ala Phe Gly Ala Ser Ser Asp			
2750	2755	2760	
gag gag aag cgc ctc acc atg atg ctc ttc tcc aac atc ttc gac			8334
Glu Glu Lys Arg Leu Thr Met Met Leu Phe Ser Asn Ile Phe Asp			
2765	2770	2775	
tcg ctc agc aag atg gac tac gag ccc gag ctc ttc ggg aag gcg			8379
Ser Leu Ser Lys Met Asp Tyr Glu Pro Glu Leu Phe Gly Lys Ala			
2780	2785	2790	
ctg ccc tgt ctt att gct ata gga tgc gct ctg cct cct gac tac			8424
Leu Pro Cys Leu Ile Ala Ile Gly Cys Ala Leu Pro Pro Asp Tyr			
2795	2800	2805	
tct ctc tca aag aac tat gat gat gag ttt tac ggc aaa gag caa			8469
Ser Leu Ser Lys Asn Tyr Asp Asp Glu Phe Tyr Gly Lys Glu Gln			
2810	2815	2820	
gct gca ggt gac cta gac aac ccc caa tac gac cct cag ccc ata			8514
Ala Ala Gly Asp Leu Asp Asn Pro Gln Tyr Asp Pro Gln Pro Ile			
2825	2830	2835	
aac acg tcc tca gta gca ttg aac aat gat ctc aac acg atc gta			8559
Asn Thr Ser Ser Val Ala Leu Asn Asn Asp Leu Asn Thr Ile Val			
2840	2845	2850	
cag aag ttc tcg gaa cat tac cac gat gcg tgg gct agt agg aag			8604
Gln Lys Phe Ser Glu His Tyr His Asp Ala Trp Ala Ser Arg Lys			
2855	2860	2865	
att gag aac ggc tgg gtg tat ggg gag ggc tgg tct gat agc cag			8649
Ile Glu Asn Gly Trp Val Tyr Gly Glu Gly Trp Ser Asp Ser Gln			
2870	2875	2880	
aag act cat cct agg ctg aag cct tat aat atg ctt aat gat tat			8694
Lys Thr His Pro Arg Leu Lys Pro Tyr Asn Met Leu Asn Asp Tyr			
2885	2890	2895	
gaa aaa gag cgt tac aag gag cca gta cgt gaa tct ctg aag gca			8739
Glu Lys Glu Arg Tyr Lys Glu Pro Val Arg Glu Ser Leu Lys Ala			

2900							2905							2910							
ctt	cta	gcc	atc	ggg	tgg	tct	gta	gaa	cat	tca	gaa	gta	gac	ata							8784
Leu	Leu	Ala	Ile	Gly	Trp	Ser	Val	Glu	His	Ser	Glu	Val	Asp	Ile							
	2915						2920					2925									
ccg	agt	aac	aac	cga	agc	tcc	atg	aga	agg	cag	tcc	aag	tcg	gga							8829
Pro	Ser	Asn	Asn	Arg	Ser	Ser	Met	Arg	Arg	Gln	Ser	Lys	Ser	Gly							
	2930						2935					2940									
ggc	cgc	cct	ccc	gaa	att	gtg	cag	aca	gac	tcg	gcg	act	ccg	ttc							8874
Gly	Arg	Pro	Pro	Glu	Ile	Val	Gln	Thr	Asp	Ser	Ala	Thr	Pro	Phe							
	2945						2950					2955									
aac	tac	aac	cct	cac	cca	gtc	gac	atg	acc	aac	ttg	acg	cta	tcg							8919
Asn	Tyr	Asn	Pro	His	Pro	Val	Asp	Met	Thr	Asn	Leu	Thr	Leu	Ser							
	2960						2965					2970									
agg	gag	atg	cag	aac	atg	gcg	gag	agg	ctc	gct	gac	aac	gca	cac							8964
Arg	Glu	Met	Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Asp	Asn	Ala	His							
	2975						2980					2985									
gac	atc	tgg	gcg	aag	aag	aag	aag	gaa	gaa	ctc	gtt	act	aat	gga							9009
Asp	Ile	Trp	Ala	Lys	Lys	Lys	Lys	Glu	Glu	Leu	Val	Thr	Asn	Gly							
	2990						2995					3000									
ggg	ggc	atc	cac	ccc	caa	cta	gta	ccc	tac	gac	ctc	cta	acg	gac							9054
Gly	Gly	Ile	His	Pro	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp							
	3005						3010					3015									
aaa	gaa	aag	aag	aaa	gat	cga	gaa	cgt	tct	caa	gag	ttc	ctc	aaa							9099
Lys	Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys							
	3020						3025					3030									
tac	ctt	caa	tac	caa	ggg	tac	aag	ctc	cac	cgg	ccc	agc	aag	gcg							9144
Tyr	Leu	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Ser	Lys	Ala							
	3035						3040					3045									
cca	caa	agt	gat	acg	gaa	caa	acc	act	acg	ggg	gta	gca	ata	gag							9189
Pro	Gln	Ser	Asp	Thr	Glu	Gln	Thr	Thr	Thr	Gly	Val	Ala	Ile	Glu							
	3050						3055					3060									
ttg	aga	ttc	gca	tac	tcg	ctc	ctc	gag	aaa	ttg	atc	cag	tac	atc							9234
Leu	Arg	Phe	Ala	Tyr	Ser	Leu	Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Ile							
	3065						3070					3075									
gat	agg	gcc	acc	att	aat	atg	aag	ctt	ttg	aaa	cct	tcc	act	acg							9279
Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr							
	3080						3085					3090									
ttt	agt	agg	aga	agt	agt	ttt	aag	act	agt	acc	agg	gat	att	aag							9324
Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys	Thr	Ser	Thr	Arg	Asp	Ile	Lys							
	3095						3100					3105									
ttc	ttt	tct	aag	gtg	gtg	ctg	cct	cta	atg	gag	aag	tat	ttc	tcg							9369
Phe	Phe	Ser	Lys	Val	Val	Leu	Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser							
	3110						3115					3120									
acg	cat	cgt	aac	tac	ttc	ata	gct	gta	gct	acg	gcg	acg	aat	aat							9414
Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Thr	Asn	Asn							

3125	3130	3135	
gtt ggt gca gcc agc ctg aag Val Gly Ala Ala Ser Leu Lys 3140	gag aaa gag atg gta Glu Lys Glu Met Val 3145	gta gct gct ctg Val Ala Ala Leu 3150	9459
ttc tgt aag ctg gct agc ttg Phe Cys Lys Leu Ala Ser Leu 3155	ctt aga tct aga ctc Leu Arg Ser Arg Leu 3160	gca gct ttc Ala Ala Phe 3165	9504
ggc cct gac gtc cgc atc aca Gly Pro Asp Val Arg Ile Thr 3170	gac gtc cgc tgt ctc Val Arg Cys Leu 3175	caa gtg ttg gtg Gln Val Leu Val 3180	9549
aag ggc atc gac gcc aag tcc Lys Gly Ile Asp Ala Lys Ser 3185	tta gtg aag aac tgc Leu Val Lys Asn Cys 3190	ccc gag ttc Pro Glu Phe 3195	9594
atc agg acc tcc atg ttg acc Ile Arg Thr Ser Met Leu Thr 3200	ttc ttc aac aat gtc Phe Phe Asn Asn Val 3205	gct gat gat Ala Asp Asp 3210	9639
gta ggg cat acg atc atg aat Val Gly His Thr Ile Met Asn 3215	ttg cag gat ggt aaa Leu Gln Asp Gly Lys 3220	tac gca cac Tyr Ala His 3225	9684
cta cga ggt acc cac ttg aag Leu Arg Gly Thr His Leu Lys 3230	aca tcc acg tct ctc Thr Ser Thr Ser Leu 3235	ggc tat atc Gly Tyr Ile 3240	9729
aac gga gta ctg ctc ccc ata Asn Gly Val Leu Leu Pro Ile 3245	ctg aca gcc aaa ttc Leu Thr Ala Lys Phe 3250	gac cat ctg Asp His Leu 3255	9774
gct aac tgc gag tac ggt gct Ala Asn Cys Glu Tyr Gly Ala 3260	gat ctg ttg ttg gac Asp Leu Leu Leu Asp 3265	gag ata caa Glu Ile Gln 3270	9819
gtg gcg tca tac aag atg ttg Val Ala Ser Tyr Lys Met Leu 3275	ggc tcc ctg tac gcg Gly Ser Leu Tyr Ala 3280	ctc ggc acg Leu Gly Thr 3285	9864
gac gct tcg ctc aca cac gac Asp Ala Ser Leu Thr His Asp 3290	aga aag tac ctc aag Arg Lys Tyr Leu Lys 3295	act gag att Thr Glu Ile 3300	9909
gag aga cat aaa cct gct ttg Glu Arg His Lys Pro Ala Leu 3305	ggc tca tgt cta ggt Gly Ser Cys Leu Gly 3310	gcg ttc agt Ala Phe Ser 3315	9954
tcg aca ttc cca gta gcg ttc Ser Thr Phe Pro Val Ala Phe 3320	ctg gag cct cac ttg Leu Glu Pro His Leu 3325	aac aaa cac Asn Lys His 3330	9999
aac cag ttc tcc ttg ctg aac Asn Gln Phe Ser Leu Leu Asn 3335	agg atc gct gac cat Arg Ile Ala Asp His 3340	tct ttg gaa Ser Leu Glu 3345	10044
gcc caa gac ata atg cag aaa Ala Gln Asp Ile Met Gln Lys	atg gaa caa tgc atg Met Glu Gln Cys Met	ccg acg tta Pro Thr Leu	10089

3350		3355		3360	
gag gcg atc tta ggc gag gtg gac caa ttc gtg gag tca gac aag	10134				
Glu Ala Ile Leu Gly Glu Val Asp Gln Phe Val Glu Ser Asp Lys					
3365		3370		3375	
acg tac aac gaa gcg ccg cat atc atc gat gtg gtg tta cct tta	10179				
Thr Tyr Asn Glu Ala Pro His Ile Ile Asp Val Val Leu Pro Leu					
3380		3385		3390	
ctc tgt tct tac ttg ccg ttc tgg tgg gca cag ggg cct gat aat	10224				
Leu Cys Ser Tyr Leu Pro Phe Trp Trp Ala Gln Gly Pro Asp Asn					
3395		3400		3405	
gtt act cct act ggc gga aac cac gta aca atg gta aca gcg gaa	10269				
Val Thr Pro Thr Gly Gly Asn His Val Thr Met Val Thr Ala Glu					
3410		3415		3420	
cac atg aac cag ctc ctc aag aat gtt ctg aag ctc atc aaa aag	10314				
His Met Asn Gln Leu Leu Lys Asn Val Leu Lys Leu Ile Lys Lys					
3425		3430		3435	
aac atc ggc aat gag aac gcg ccg tgg atg acc cgc ata gcc acc	10359				
Asn Ile Gly Asn Glu Asn Ala Pro Trp Met Thr Arg Ile Ala Thr					
3440		3445		3450	
tac acc cag cag atc atc atc aac agc tcc gag gag ttg ctg agg	10404				
Tyr Thr Gln Gln Ile Ile Ile Asn Ser Ser Glu Glu Leu Leu Arg					
3455		3460		3465	
gat tcc ttc ctg ccg ctc gct gaa cgt gtt cgc aag cgc acg gac	10449				
Asp Ser Phe Leu Pro Leu Ala Glu Arg Val Arg Lys Arg Thr Asp					
3470		3475		3480	
aat atg ttc cat aag gag gag agc ttg aga ggg ttt att aag tcg	10494				
Asn Met Phe His Lys Glu Glu Ser Leu Arg Gly Phe Ile Lys Ser					
3485		3490		3495	
tca aca gac gac aca tct caa gta gag tca cag ata caa gaa gac	10539				
Ser Thr Asp Asp Thr Ser Gln Val Glu Ser Gln Ile Gln Glu Asp					
3500		3505		3510	
tgg cag ctg ctg gtc aga gac atc tac tcc ttc tac ccg cta ctc	10584				
Trp Gln Leu Leu Val Arg Asp Ile Tyr Ser Phe Tyr Pro Leu Leu					
3515		3520		3525	
atc aag tac gtc gac ctg cag agg aac cac tgg ctc agg aac aat	10629				
Ile Lys Tyr Val Asp Leu Gln Arg Asn His Trp Leu Arg Asn Asn					
3530		3535		3540	
gtt cca gag gcg gaa gag ctg tac aac cac gtg gcc gaa atc ttc	10674				
Val Pro Glu Ala Glu Glu Leu Tyr Asn His Val Ala Glu Ile Phe					
3545		3550		3555	
aac ata tgg tcg aag agc cag tac ttc ttg aag gag gaa cag aac	10719				
Asn Ile Trp Ser Lys Ser Gln Tyr Phe Leu Lys Glu Glu Gln Asn					
3560		3565		3570	
ttc atc tct gcc aac gag att gat aac atg gtg ctg att atg cca	10764				
Phe Ile Ser Ala Asn Glu Ile Asp Asn Met Val Leu Ile Met Pro					

3575		3580		3585	
aca gca aca aga aga gtg	aca gca gta aca gat ggt	act cct caa	10809		
Thr Ala Thr Arg Arg Val	Thr Ala Val Thr Asp Gly	Thr Pro Gln			
3590	3595	3600			
ggc ggt gga aag aaa aag aag	aag cac cgt gat aag	aaa cgc gac	10854		
Gly Gly Gly Lys Lys Lys Lys	Lys His Arg Asp Lys	Lys Arg Asp			
3605	3610	3615			
aaa gac aag gaa gtc caa gcg	tcc cta atg gta gct	tgt ctg aag	10899		
Lys Asp Lys Glu Val Gln Ala	Ser Leu Met Val Ala	Cys Leu Lys			
3620	3625	3630			
agg ttg cta cca gtt ggc ctt	aac cta ttc gct ggc	aga gaa caa	10944		
Arg Leu Leu Pro Val Gly Leu	Asn Leu Phe Ala Gly	Arg Glu Gln			
3635	3640	3645			
gaa ctg gtg cag cat tgt aaa	gac agg ttc ctg aag	gta ggg acc	10989		
Glu Leu Val Gln His Cys Lys	Asp Arg Phe Leu Lys	Val Gly Thr			
3650	3655	3660			
ctc aag aaa atg tca gaa caa	gat gtg gca gaa ttc	gcg aag acc	11034		
Leu Lys Lys Met Ser Glu Gln	Asp Val Ala Glu Phe	Ala Lys Thr			
3665	3670	3675			
cag ctg aca ctt cca gat aaa	ata gat ccg gca gac	gaa atg tct	11079		
Gln Leu Thr Leu Pro Asp Lys	Ile Asp Pro Ala Asp	Glu Met Ser			
3680	3685	3690			
tgg caa cat tac ttg tat agc	aag tta ggt tcg aag	agt aag agc	11124		
Trp Gln His Tyr Leu Tyr Ser	Lys Leu Gly Ser Lys	Ser Lys Ser			
3695	3700	3705			
aat ata act gtg gaa act gct	gaa aat aaa gcc aag	att att gat	11169		
Asn Ile Thr Val Glu Thr Ala	Glu Asn Lys Ala Lys	Ile Ile Asp			
3710	3715	3720			
gat act gtt gaa agg atc gtc	gct atg agt aaa gtg	ctt ttc gga	11214		
Asp Thr Val Glu Arg Ile Val	Ala Met Ser Lys Val	Leu Phe Gly			
3725	3730	3735			
ttg cat atg atc gac cat ccc	caa caa atg agt aag	aac gtg tac	11259		
Leu His Met Ile Asp His Pro	Gln Gln Met Ser Lys	Asn Val Tyr			
3740	3745	3750			
cgg tcg gtg gtg tcc ata caa	cgc aag cgc gcc gtc	atc gcc tgc	11304		
Arg Ser Val Val Ser Ile Gln	Arg Lys Arg Ala Val	Ile Ala Cys			
3755	3760	3765			
ttc cga caa act tcg cta cat	tct ctg ccg aga cac	cga gcg tgt	11349		
Phe Arg Gln Thr Ser Leu His	Ser Leu Pro Arg His	Arg Ala Cys			
3770	3775	3780			
aac atc ttc gct cgc acg tac	tac gag ctc tgg ttg	gaa gag gag	11394		
Asn Ile Phe Ala Arg Thr Tyr	Tyr Glu Leu Trp Leu	Glu Glu Glu			
3785	3790	3795			
aac att gga caa gaa gtt atg	ata gaa gat ctt act	caa tca ttc	11439		
Asn Ile Gly Gln Glu Val Met	Ile Glu Asp Leu Thr	Gln Ser Phe			

3800						3805						3810					
gaa gac gca gaa ctg aag aag agt gac gtg gtg gag gaa ggt gag	Glu Asp Ala Glu Leu Lys Lys Ser Asp Val Val Glu Glu Gly Glu																11484
3815						3820						3825					
aag ccc gac ccc ctc acg cag ctg gtc acc acc ttc tgt cgc ggc	Lys Pro Asp Pro Leu Thr Gln Leu Val Thr Thr Phe Cys Arg Gly																11529
3830						3835						3840					
gcc atg act gag agg tcc ggc gct tta cag gag gat ccc cta tac	Ala Met Thr Glu Arg Ser Gly Ala Leu Gln Glu Asp Pro Leu Tyr																11574
3845						3850						3855					
atg tct tac gca cac atc ata gcg aag tcc tgt gga gaa gaa gag	Met Ser Tyr Ala His Ile Ile Ala Lys Ser Cys Gly Glu Glu Glu																11619
3860						3865						3870					
gaa gaa ggg ggc ggg gaa gaa gag gaa ggg ggt gga gaa gct gag	Glu Glu Gly Gly Gly Glu Glu Glu Glu Gly Gly Gly Glu Glu Ala Glu																11664
3875						3880						3885					
gcc gag gac gaa ggc aga gcc agt ata cac gaa caa gag atg gag	Ala Glu Asp Glu Gly Arg Ala Ser Ile His Glu Gln Glu Met Glu																11709
3890						3895						3900					
aaa cag aag ctt cta ttc cac caa gcg cga ctg gca gac cgc ggt	Lys Gln Lys Leu Leu Phe His Gln Ala Arg Leu Ala Asp Arg Gly																11754
3905						3910						3915					
gtt gcc gag atg gtg ttg ctg cat atc tcc gcg tct aaa ggc ctg	Val Ala Glu Met Val Leu Leu His Ile Ser Ala Ser Lys Gly Leu																11799
3920						3925						3930					
ccc agc gag atg gtc atg aag aca tta cag ctc ggt att agt ata	Pro Ser Glu Met Val Met Lys Thr Leu Gln Leu Gly Ile Ser Ile																11844
3935						3940						3945					
ctg aga gga ggc aat att gat ata cag atg ggt atg ttg aac cac	Leu Arg Gly Gly Asn Ile Asp Ile Gln Met Gly Met Leu Asn His																11889
3950						3955						3960					
ttg aaa gac aag aaa gac gtg gga ttc ttc acg tcc atc gcc ggc	Leu Lys Asp Lys Lys Asp Val Gly Phe Phe Thr Ser Ile Ala Gly																11934
3965						3970						3975					
ctc atg aac tcc tgc tca gtg ctc gat ctt gac gcc ttc gag agg	Leu Met Asn Ser Cys Ser Val Leu Asp Leu Asp Ala Phe Glu Arg																11979
3980						3985						3990					
aac acc aaa gct gaa ggt ctg ggc gtg ggt ctg gaa ggc gcc gca	Asn Thr Lys Ala Glu Gly Leu Gly Val Gly Leu Glu Gly Ala Ala																12024
3995						4000						4005					
gga gag aag aac atg cat gac gcc gag ttc acc tgc gca ctc ttt	Gly Glu Lys Asn Met His Asp Ala Glu Phe Thr Cys Ala Leu Phe																12069
4010						4015						4020					
agg ttc att cag ctc acc tgt gaa gga cac aac ttg gac tgg cag	Arg Phe Ile Gln Leu Thr Cys Glu Gly His Asn Leu Asp Trp Gln																12114

4025	4030	4035	
aac tac ctg cga act cag gcc ggt aac acg acg aca gtg aac gtg Asn Tyr Leu Arg Thr Gln Ala Gly Asn Thr Thr Thr Val Asn Val 4040 4045 4050			12159
gtc atc tgc acc gtc gac tac ctg ctg cgg ctg cag gag tcc atc Val Ile Cys Thr Val Asp Tyr Leu Leu Arg Leu Gln Glu Ser Ile 4055 4060 4065			12204
atg gac ttc tac tgg cac tac tct agc aag gaa ctg atc gac ccg Met Asp Phe Tyr Trp His Tyr Ser Ser Lys Glu Leu Ile Asp Pro 4070 4075 4080			12249
gcc ggc aaa gcg aat ttc ttc aag gcc att ggc gtg gct tcc caa Ala Gly Lys Ala Asn Phe Phe Lys Ala Ile Gly Val Ala Ser Gln 4085 4090 4095			12294
gta ttc aac acc ctc act gaa gtc ata cag gga cct tgt act cag Val Phe Asn Thr Leu Thr Glu Val Ile Gln Gly Pro Cys Thr Gln 4100 4105 4110			12339
aac cag cag gct tta gct cac tct agg tta tgg gac gct gtc ggt Asn Gln Gln Ala Leu Ala His Ser Arg Leu Trp Asp Ala Val Gly 4115 4120 4125			12384
ggc ttc ttg ttc cta ttc tcc cac atg cag gac aag ttg tcg aag Gly Phe Leu Phe Leu Phe Ser His Met Gln Asp Lys Leu Ser Lys 4130 4135 4140			12429
cac tcg tcg cag gtg gac ctg ctg aag gaa ctc ctc aat ctg cag His Ser Ser Gln Val Asp Leu Leu Lys Glu Leu Leu Asn Leu Gln 4145 4150 4155			12474
aag gac atg atc acc atg atg ctg tcc atg ctt gaa gga aat gtt Lys Asp Met Ile Thr Met Met Leu Ser Met Leu Glu Gly Asn Val 4160 4165 4170			12519
gtt aat ggt aca atc ggc aag caa atg gtg gac act cta gta gaa Val Asn Gly Thr Ile Gly Lys Gln Met Val Asp Thr Leu Val Glu 4175 4180 4185			12564
tcg gcc tcc aac gtg gaa ctg atc ctg aaa tac ttc gac atg ttc Ser Ala Ser Asn Val Glu Leu Ile Leu Lys Tyr Phe Asp Met Phe 4190 4195 4200			12609
ctc aag ctg aag gac ctg act tcc agc gcc agc ttc caa gag ata Leu Lys Leu Lys Asp Leu Thr Ser Ser Ala Ser Phe Gln Glu Ile 4205 4210 4215			12654
gat gcc aat aac gac ggc tgg gtg ctg ccc aag gac ttc aag gag Asp Ala Asn Asn Asp Gly Trp Val Leu Pro Lys Asp Phe Lys Glu 4220 4225 4230			12699
aag atg gaa caa cag aag agt tat act ccc gaa gaa atc gag ttc Lys Met Glu Gln Gln Lys Ser Tyr Thr Pro Glu Glu Ile Glu Phe 4235 4240 4245			12744
ctc tta gct tgc tgc gag acg aac cac gac ggc aag tta gac tac Leu Leu Ala Cys Cys Glu Thr Asn His Asp Gly Lys Leu Asp Tyr 4250 4255 4260			12789

4250	4255	4260	
atc ggt ttc tgc gac cgt ttc	cac gag cct gcc aag	gag atc ggg	12834
Ile Gly Phe Cys Asp Arg Phe	His Glu Pro Ala Lys	Glu Ile Gly	
4265	4270	4275	
ttt aac ttg gcc gtg tta ctg	act aac ttg tct gaa	cat atg ccg	12879
Phe Asn Leu Ala Val Leu Leu	Thr Asn Leu Ser Glu	His Met Pro	
4280	4285	4290	
aac gag cct aga ttg gct cgt	ttc ctg gag acg gcg	ggg tca gtc	12924
Asn Glu Pro Arg Leu Ala Arg	Phe Leu Glu Thr Ala	Gly Ser Val	
4295	4300	4305	
ctg aac tac ttc gaa cca ttc	ctg ggc cgt atc gag	atc atg ggc	12969
Leu Asn Tyr Phe Glu Pro Phe	Leu Gly Arg Ile Glu	Ile Met Gly	
4310	4315	4320	
ggc tct aag cgc atc gag cga	gtc tac ttc gag atc	aag gag tct	13014
Gly Ser Lys Arg Ile Glu Arg	Val Tyr Phe Glu Ile	Lys Glu Ser	
4325	4330	4335	
aat atc gaa cag tgg gag aaa	ccg caa att aag gaa	tcc aaa cgc	13059
Asn Ile Glu Gln Trp Glu Lys	Pro Gln Ile Lys Glu	Ser Lys Arg	
4340	4345	4350	
gcg ttc ttc tac agc ata gta	aca gaa ggt ggt gat	aaa gag aaa	13104
Ala Phe Phe Tyr Ser Ile Val	Thr Glu Gly Gly Asp	Lys Glu Lys	
4355	4360	4365	
tta gaa gct ttc gtg aac ttc	tgt gag gac gcc atc	ttt gaa atg	13149
Leu Glu Ala Phe Val Asn Phe	Cys Glu Asp Ala Ile	Phe Glu Met	
4370	4375	4380	
acg cac gcg tcg gga cta atg	gcg gcg tcg gag gag	tcg gtg gga	13194
Thr His Ala Ser Gly Leu Met	Ala Ala Ser Glu Glu	Ser Val Gly	
4385	4390	4395	
ggg acc aag aat aga gag gcc	agc tat atg tat atg	ggg gat gat	13239
Gly Thr Lys Asn Arg Glu Ala	Ser Tyr Met Tyr Met	Gly Asp Asp	
4400	4405	4410	
gat gat gag aga gcc ggc aaa	gat cca ttc cgt cgc	gga ctc cag	13284
Asp Asp Glu Arg Ala Gly Lys	Asp Pro Phe Arg Arg	Gly Leu Gln	
4415	4420	4425	
tca gtg aaa gac ggc gtc gcc	acg gca ttt tct tcc	tta tca cct	13329
Ser Val Lys Asp Gly Val Ala	Thr Ala Phe Ser Ser	Leu Ser Pro	
4430	4435	4440	
tcc aac ata aag gcg aaa atc	gca gac atg caa caa	atg cca cca	13374
Ser Asn Ile Lys Ala Lys Ile	Ala Asp Met Gln Gln	Met Pro Pro	
4445	4450	4455	
gcc gaa cta gca gtg ggc ttt	ttc aaa atg ttc ttc	tat cta ttc	13419
Ala Glu Leu Ala Val Gly Phe	Phe Lys Met Phe Phe	Tyr Leu Phe	
4460	4465	4470	
tat tac ttg ggc tat gga gtt	ctc gtc gtt gtc agg	tat ata ttc	13464
Tyr Tyr Leu Gly Tyr Gly Val	Leu Val Val Val Arg	Tyr Ile Phe	

4475							4480					4485				
ggt gtg ctc ttg ggt ctg atg cga ggt cct cag acg gat gaa ccg	Gly Val Leu Leu Gly Leu Met Arg Gly Pro Gln Thr Asp Glu Pro															13509
4490						4495					4500					
cct ccg gag ccg acg gaa gag gag aaa atc ggt cag ttg aga cac	Pro Pro Glu Pro Thr Glu Glu Glu Lys Ile Gly Gln Leu Arg His					4510					4515					13554
agg ttg cta gcg aca caa agt tct cgt cat ctc ccg gcg ttg cct	Arg Leu Leu Ala Thr Gln Ser Ser Arg His Leu Pro Ala Leu Pro					4525					4530					13599
4520						4525										
cca gct gat gat acg gga cag atg caa gtg tcg gca ttc gga ctc	Pro Ala Asp Asp Thr Gly Gln Met Gln Val Ser Ala Phe Gly Leu					4540					4545					13644
4535						4540										
gat atc acc aag gaa gac aat gga cag ata caa gta aag ccg cac	Asp Ile Thr Lys Glu Asp Asn Gly Gln Ile Gln Val Lys Pro His					4555					4560					13689
4550						4555										
gaa tca ccc agc aca tcc act cca tca tca ggc gag gag gcg gag	Glu Ser Pro Ser Thr Ser Thr Pro Ser Ser Gly Glu Glu Ala Glu					4570					4575					13734
4565						4570										
gtg tca ccc gac gag agc gcc gac cac acg gag gag cag aga ccg	Val Ser Pro Asp Glu Ser Ala Asp His Thr Glu Glu Gln Arg Pro					4585					4590					13779
4580						4585										
cct tct ctt atc gac ctg ctc ggt gga gaa caa gct aaa aag caa	Pro Ser Leu Ile Asp Leu Leu Gly Gly Glu Gln Ala Lys Lys Gln					4600					4605					13824
4595						4600										
gct cag gag agg atg gaa gct caa gct gct caa caa gct gct atg	Ala Gln Glu Arg Met Glu Ala Gln Ala Ala Gln Gln Ala Ala Met					4615					4620					13869
4610						4615										
tcc gcc att gaa gct gaa agc aaa aag gca gtg caa ggg ccc gcg	Ser Ala Ile Glu Ala Glu Ser Lys Lys Ala Val Gln Gly Pro Ala					4630					4635					13914
4625						4630										
cca tca gcg cta tct caa gtg gac ctg tcc cag tac acc cgg cgc	Pro Ser Ala Leu Ser Gln Val Asp Leu Ser Gln Tyr Thr Arg Arg					4645					4650					13959
4640						4645										
gca gtc tcg ttc cta gct cgc aac ttc tac aac ctg aag tac gtg	Ala Val Ser Phe Leu Ala Arg Asn Phe Tyr Asn Leu Lys Tyr Val					4660					4665					14004
4655						4660										
gcg ctc gtg ctg gcc ttc tgt atc aac ttc gtg ctg ctc ttc tat	Ala Leu Val Leu Ala Phe Cys Ile Asn Phe Val Leu Leu Phe Tyr					4675					4680					14049
4670						4675										
aag gta tct acc ctg gac ggt gaa ggt ggt gaa ggt tcg ggt ctg	Lys Val Ser Thr Leu Asp Gly Glu Gly Gly Glu Gly Ser Gly Leu					4690					4695					14094
4685						4690										
ggt gat atc atc gcc ggt ggg ggt tcc gga tcc ggg gct ggc tct	Gly Asp Ile Ile Ala Gly Gly Gly Ser Gly Ser Gly Ala Gly Ser															14139

4700	4705	4710	
ggc agt gga gac ggt agt Gly Ser Gly Asp Gly Ser 4715	ggc gaa tca gga gaa gat Gly Glu Ser Gly Glu Asp 4720	gac gac gcg Asp Asp Ala 4725	14184
tta gaa gta gta cac ata Leu Glu Val Val His Ile 4730	gac gaa gac ttc ttc Asp Glu Asp Phe Phe 4735	tat atg gaa cac Tyr Met Glu His 4740	14229
gtc atc aaa atg gcg gcc Val Ile Lys Met Ala Ala 4745	gtg ttg cac tct atc Val Leu His Ser Ile 4750	gtg tct ctg gct Val Ser Leu Ala 4755	14274
ata ctc atc gga tat tat Ile Leu Ile Gly Tyr Tyr 4760	cat ctt aag gtg ccg His Leu Lys Val Pro 4765	cta gct atc ttc Leu Ala Ile Phe 4770	14319
aaa cgc gag aag gag atc Lys Arg Glu Lys Glu Ile 4775	gct cgt aaa ctg gaa ttc Ala Arg Lys Leu Glu Phe 4780	gac gga ctg Asp Gly Leu 4785	14364
tac atc gct gaa cag cct Tyr Ile Ala Glu Gln Pro 4790	gaa gac gac gac ctc Glu Asp Asp Asp Leu 4795	aag agc cac tgg Lys Ser His Trp 4800	14409
gac aaa ctc gtt ata tct Asp Lys Leu Val Ile Ser 4805	gcc aaa tca ttc ccc Ala Lys Ser Phe Pro 4810	gta aac tac tgg Val Asn Tyr Trp 4815	14454
gac aag ttc gtg aag aag Asp Lys Phe Val Lys Lys 4820	aaa gtt cgc gcc aaa Lys Val Arg Ala Lys 4825	tat tca gag aca Tyr Ser Glu Thr 4830	14499
tat gac ttc gac tcc atc Tyr Asp Phe Asp Ser Ile 4835	tcc aac atg ttg ggc Ser Asn Met Leu Gly 4840	atg gag aag act Met Glu Lys Thr 4845	14544
tcc ttc tcc gcg caa gaa Ser Phe Ser Ala Gln Glu 4850	gaa gaa ggc agc aaa Glu Glu Gly Ser Lys 4855	gga ctt att cat Gly Leu Ile His 4860	14589
tac ata atc aac ata gac Tyr Ile Ile Asn Ile Asp 4865	tgg cgc tac caa gtg Trp Arg Tyr Gln Val 4870	tgg aag gcg ggc Trp Lys Ala Gly 4875	14634
gtg acg atc aca gac aac Val Thr Ile Thr Asp Asn 4880	tcg ttc ctc tac tct Ser Phe Leu Tyr Ser 4885	cta tgg tac ttc Leu Trp Tyr Phe 4890	14679
tcc ttc tcc gtg atg ggg Ser Phe Ser Val Met Gly 4895	aac ttc aac aac ttc Asn Phe Asn Asn Phe 4900	ttc ttc ggc gca Phe Phe Ala Ala 4905	14724
cat ttg ttg gac gtg gct His Leu Leu Asp Val Ala 4910	gtt ggg ttt aag acc Val Gly Phe Lys Thr 4915	ctg agg act atc Leu Arg Thr Ile 4920	14769
ttg cag tct gtc acg cat Leu Gln Ser Val Thr His 4910	aat gga aaa cag ctg Asn Gly Lys Gln Leu 4915	gta tta acg gtg Val Leu Thr Val 4920	14814

4925	4930	4935	
atg ctg ctg act ata atc	gtg tac atc tac acg	gtg atc gcg ttc	14859
Met Leu Leu Thr Ile Ile	Val Tyr Ile Tyr Thr	Val Ile Ala Phe	
4940	4945	4950	
aac ttc ttc cgc aag ttc	tac gtg cag gag gag	gac gac gaa gtc	14904
Asn Phe Phe Arg Lys Phe	Tyr Val Gln Glu Glu	Asp Asp Glu Val	
4955	4960	4965	
aat agg aac tgc cat gat	atg ttg acg tgc ttc	gtg ttc aac ttg	14949
Asn Arg Asn Cys His Asp	Met Leu Thr Cys Phe	Val Phe Asn Leu	
4970	4975	4980	
tac aag ggc gtg cgg gcg	ggc ggc atc ggc	gac gag ctg gag	14994
Tyr Lys Gly Val Arg Ala	Gly Gly Ile Gly	Asp Glu Leu Glu	
4985	4990	4995	
ccg cct gat gga gac gac	tcc gag gtc tac cgc	atc atc ttc gac	15039
Pro Pro Asp Gly Asp Asp	Ser Glu Val Tyr Arg	Ile Ile Phe Asp	
5000	5005	5010	
atc tcc ttc ttc ttc ttc	atc atc gtc atc ctg	ctc gct atc ctg	15084
Ile Ser Phe Phe Phe Phe	Ile Ile Val Ile Leu	Leu Ala Ile Leu	
5015	5020	5025	
cag ggt ttg atc atc gac	gcg ttc gga gag ctg	cgt gac cag ttg	15129
Gln Gly Leu Ile Ile Asp	Ala Phe Gly Glu Leu	Arg Asp Gln Leu	
5030	5035	5040	
gag tcg gtg aag gag gac	atg gag tcc aac tgc	ttc atc tgc ggc	15174
Glu Ser Val Lys Glu Asp	Met Glu Ser Asn Cys	Phe Ile Cys Gly	
5045	5050	5055	
atc aat aaa gac tat ttt	gat aaa gtg ccg cac	ggg ttc gac aca	15219
Ile Asn Lys Asp Tyr Phe	Asp Lys Val Pro His	Gly Phe Asp Thr	
5060	5065	5070	
cac gtg cag agg gaa cat	aat cta gct aat tac	atg ttc ttc ctc	15264
His Val Gln Arg Glu His	Asn Leu Ala Asn Tyr	Met Phe Phe Leu	
5075	5080	5085	
atg cat ctc att aat aaa	ccc gat acg gaa tat	aca ggt caa gaa	15309
Met His Leu Ile Asn Lys	Pro Asp Thr Glu Tyr	Thr Gly Gln Glu	
5090	5095	5100	
acc tac gta tgg aac atg	tac aca caa aga tgt	tgg gac ttc ttc	15354
Thr Tyr Val Trp Asn Met	Tyr Thr Gln Arg Cys	Trp Asp Phe Phe	
5105	5110	5115	
ccc gtg gga gat tgt ttc	cga aag caa tac gaa	gac ctc atg gga	15399
Pro Val Gly Asp Cys Phe	Arg Lys Gln Tyr Glu	Asp Leu Met Gly	
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gaa tag			15405
Glu			

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<211> 5134

<212> PRT
 <213> Heliothis virescens

<220>
 <223> pXL-Hv2

<400> 130
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 Leu Arg Thr Glu Asp Met Val Cys Leu Ser Cys Thr Ala Thr Gly Glu
 20 25 30
 Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu
 35 40 45
 Glu Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val
 50 55 60
 Phe Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val
 65 70 75 80
 Thr Ala Ala Gly Ser Glu Thr Gly Lys Gly Thr Gly Ser Gly His Arg
 85 90 95
 Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg His Leu Asn Ser Asp
 100 105 110
 Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser Gln Asp Lys Pro Ala
 115 120 125
 Phe Asp Val Gly Leu Gln Gln His Ser Gln Gly Glu Ala Cys Trp Trp
 130 135 140
 Thr Leu His Pro Ala Ser Lys Gln Arg Ser Glu Gly Glu Lys Val Arg
 145 150 155 160
 Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala Thr Glu Arg Tyr Leu
 165 170 175
 His Thr Thr Lys Glu Asn Glu Val Ser Ile Val Asn Ala Ser Phe His
 180 185 190
 Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr Gly Ile Ser Arg Met
 195 200 205
 Lys Tyr Val Gly Tyr Val Phe Gly Gly Asp Val Leu Arg Phe Phe His
 210 215 220
 Gly Gly Asp Glu Cys Leu Thr Ile Pro Ser Thr Trp Thr Lys Asp Gly
 225 230 235 240
 Gly Gln Asn Ile Val Val Tyr Glu Gly Gly Ser Val Met Ser Gln Ala
 245 250 255
 Arg Ser Leu Trp Arg Leu Glu Leu Ala Arg Thr Lys Trp Ala Gly Gly
 260 265 270
 Phe Ile Asn Trp Tyr His Pro Met Arg Ile Arg His Ile Thr Thr Gly
 275 280 285

Arg	Tyr	Leu	Gly	Val	Asn	Asp	Gln	Asn	Glu	Leu	Tyr	Leu	Val	Ser	Arg	290	295	300	
Glu	Glu	Ala	Thr	Thr	Ala	Ser	Cys	Ala	Phe	Cys	Leu	Arg	Gln	Glu	Lys	305	310	315	320
Asp	Asp	Gln	Lys	Gln	Val	Leu	Glu	Asp	Lys	Asp	Leu	Glu	Val	Ile	Gly	325	330	335	
Ala	Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Ser	Thr	Val	Ile	Val	Gln	His	Ser	340	345	350	
Glu	Thr	Gly	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	Glu	Thr	Lys	Lys	Glu	355	360	365	
Gly	Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	Leu	His	Glu	Glu	Gly	370	375	380	
Lys	Met	Asp	Asp	Gly	Leu	Asp	Phe	Ser	Arg	Ser	Gln	Glu	Glu	Glu	Ser	385	390	395	400
Arg	Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	Leu	Phe	Thr	Lys	Phe	405	410	415	
Ile	Asn	Gly	Leu	Glu	Thr	Leu	Gln	Glu	Asn	Arg	Arg	His	Ser	Met	Phe	420	425	430	
Phe	Ala	Ser	Val	Asn	Leu	Gly	Glu	Met	Val	Met	Cys	Leu	Glu	Asp	Leu	435	440	445	
Ile	Asn	Tyr	Phe	Ala	Gln	Pro	Asp	Glu	Asp	Met	Glu	His	Glu	Glu	Lys	450	455	460	
Gln	Asn	Lys	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	Asp	Leu	Phe	Gln	Glu	465	470	475	480
Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	Asp	Lys	Ile	Asn	Val	485	490	495	
Ile	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu	Ala	Gly	Asp	Glu	Ser	500	505	510	
Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu	Tyr	Gln	Leu	Leu	Ala	515	520	525	
Ala	Ile	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala	Gln	Phe	Ala	Asn	Ser	530	535	540	
Asn	Arg	Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly	Ser	Gln	Ala	Ser	Gly	545	550	555	560
Glu	Gly	Thr	Gly	Met	Leu	Asp	Val	Leu	His	Cys	Val	Leu	Ile	Asp	Ser	565	570	575	
Pro	Glu	Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His	Ile	Lys	Val	Ile	Ile	580	585	590	
Ser	Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys	Val	Leu	Asp	Val	Leu	595	600	605	

Cys	Ser	Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val	Arg	Ser	Ser	Gln	Asn	610	615	620	
Asn	Ile	Cys	Asp	Tyr	Leu	Leu	Pro	Gly	Lys	Asn	Leu	Leu	Leu	Gln	Thr	625	630	635	640
Ala	Leu	Val	Asp	His	Val	Ser	Ser	Val	Arg	Pro	Asn	Ile	Phe	Val	Gly	645	650	655	
Arg	Val	Glu	Gly	Ser	Ala	Val	Tyr	Arg	Lys	Trp	Tyr	Phe	Glu	Val	Thr	660	665	670	
Met	Asp	His	Ile	Glu	Lys	Thr	Thr	His	Met	Ile	Pro	His	Leu	Arg	Ile	675	680	685	
Gly	Trp	Ala	Asn	Thr	Thr	Gly	Tyr	Val	Pro	Tyr	Pro	Gly	Gly	Gly	Glu	690	695	700	
Lys	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu	Tyr	Ser	Tyr	Gly	Phe	705	710	715	720
Asp	Gly	Ala	Tyr	Leu	Trp	Ser	Gly	Gly	Arg	Lys	Thr	Pro	Val	Asn	Arg	725	730	735	
Thr	His	Ala	Glu	Glu	Pro	Tyr	Ile	Arg	Lys	Gly	Asp	Val	Ile	Gly	Cys	740	745	750	
Ala	Leu	Asp	Leu	Thr	Val	Pro	Ile	Ile	Asn	Phe	Met	Phe	Asn	Gly	Val	755	760	765	
Arg	Val	Thr	Gly	Ser	Phe	Thr	Asn	Phe	Asn	Leu	Glu	Gly	Met	Phe	Phe	770	775	780	
Pro	Val	Ile	Ser	Cys	Ser	Ser	Lys	Leu	Ser	Cys	Arg	Phe	Leu	Leu	Gly	785	790	795	800
Gly	Glu	His	Gly	Arg	Leu	Arg	Tyr	Ala	Ala	Pro	Glu	Gly	Tyr	Ser	Pro	805	810	815	
Leu	Val	Glu	Ser	Leu	Leu	Pro	Gln	Gln	Ile	Leu	Ser	Leu	Glu	Pro	Cys	820	825	830	
Phe	Tyr	Phe	Gly	Asn	Leu	Ser	Lys	Arg	Ala	Leu	Ala	Gly	Pro	Pro	Leu	835	840	845	
Val	Gln	Asp	Asp	Thr	Ala	Phe	Val	Pro	Thr	Pro	Val	Asp	Thr	Leu	Gln	850	855	860	
Ile	Thr	Leu	Pro	Thr	Tyr	Val	Glu	Gln	Ile	Arg	Asp	Lys	Leu	Ala	Glu	865	870	875	880
Asn	Ile	His	Glu	Met	Trp	Ala	Met	Asn	Lys	Ile	Glu	Ala	Gly	Trp	Met	885	890	895	
Tyr	Gly	Asp	Gln	Arg	Glu	Asp	Leu	His	Lys	Ile	His	Pro	Cys	Leu	Val	900	905	910	
Pro	Phe	Glu	Arg	Leu	Pro	Pro	Ala	Glu	Lys	Arg	Tyr	Asp	Ile	Gln	Leu	915	920	925	

Ala	Val	Gln	Thr	Leu	Lys	Thr	Ile	Leu	Ala	Leu	Gly	Tyr	Tyr	Ile	Ser	930	935	940	
Leu	Asp	Lys	Pro	Pro	Ala	Arg	Ile	Arg	Asn	Val	Arg	Leu	Pro	Asn	Glu	945	950	955	960
Pro	Phe	Met	Gln	Ser	Asn	Gly	Tyr	Lys	Pro	Ala	Pro	Leu	Asp	Leu	Ser	965	970	975	
Ala	Val	Thr	Leu	Thr	Pro	Lys	Met	Asp	Glu	Leu	Val	Asp	Gln	Leu	Ala	980	985	990	
Glu	Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	Ile	Gln	Gln	Gly	Trp	995	1000	1005	
Thr	Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Asp	Met	His	Arg	Ser	Pro	His	1010	1015	1020		
Leu	Val	Pro	Tyr	Pro	Lys	Val	Asp	Asp	Ala	Ile	Lys	Lys	Ala	Asn	1025	1030	1035		
Arg	Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr	Leu	Leu	Val	Tyr	Gly	1040	1045	1050		
Tyr	Met	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gln	His	Glu	Ala	Leu	Leu	1055	1060	1065		
Leu	Glu	Ala	Ser	Lys	Gln	Lys	Gln	Ala	Asp	Phe	Arg	Thr	Tyr	Arg	1070	1075	1080		
Ala	Glu	Lys	Asn	Tyr	Ala	Val	Ser	Ser	Gly	Lys	Trp	Tyr	Phe	Glu	1085	1090	1095		
Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg	Val	Gly	Trp	Ala	His	1100	1105	1110		
Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly	Gln	Asp	Glu	Asn	Ser	1115	1120	1125		
Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys	Val	Tyr	Ser	Gly	Asn	1130	1135	1140		
Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val	Gly	Asp	Val	Val	Gly	1145	1150	1155		
Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile	Ser	Phe	Ser	Leu	Asn	1160	1165	1170		
Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	Glu	Thr	Thr	Phe	Ala	1175	1180	1185		
Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala	Cys	Thr	Leu	Gly	Val	1190	1195	1200		
Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln	Asp	Val	Asn	Thr	Leu	1205	1210	1215		
Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	Gly	Tyr	Glu	Pro	Phe	1220	1225	1230		

Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His	Trp	Tyr	Thr	Lys	Asp
1235						1240					1245			
Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met	Ile	Asp	Thr	Arg	Ile
1250						1255					1260			
Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp	Thr	Pro	Pro	Cys	Leu
1265						1270					1275			
Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	Glu	Lys	Ala	Asn	Trp
1280						1285					1290			
Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile	Cys	His	Asn	Glu	Phe
1295						1300					1305			
Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp	Val	Glu	Ile	Lys	Asp
1310						1315					1320			
Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val	Glu	Ala	Gln	Met	Pro
1325						1330					1335			
Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly	Phe	Thr	Met	Asn	Asp
1340						1345					1350			
Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln	Glu	Glu	Leu	Pro	Ser
1355						1360					1365			
Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro	Pro	Arg	Lys	Gly	Ser
1370						1375					1380			
Met	Thr	Arg	Gly	Val	Thr	Ile	Gln	Asn	Tyr	Asn	Asn	Leu	Gln	Pro
1385						1390					1395			
Gly	Gln	Val	Asn	Gly	Met	His	Arg	Ser	Thr	Ser	Glu	Ala	Glu	Met
1400						1405					1410			
Ala	Lys	Tyr	Asp	Leu	Gly	Ala	Gln	Gly	Leu	Thr	Pro	Asp	Asp	Lys
1415						1420					1425			
Lys	Asp	Lys	Arg	Gly	Arg	Ser	Pro	Phe	Lys	Phe	Phe	Arg	Ser	Lys
1430						1435					1440			
Arg	Gly	Glu	Ser	Ser	Asp	Arg	Ala	Lys	Ser	Arg	Lys	Ser	Lys	Thr
1445						1450					1455			
Pro	Asp	Pro	Phe	Ser	Asp	Thr	Glu	Val	Ser	Pro	Glu	Arg	Gly	Ala
1460						1465					1470			
Arg	Arg	Pro	Asn	Pro	Gln	Ile	Lys	Val	Ser	Gln	Ala	Asn	Gln	Arg
1475						1480					1485			
Tyr	Asn	Gly	Met	Asn	Ala	Arg	Pro	Ser	Arg	Thr	Asn	Leu	Tyr	Gly
1490						1495					1500			
Ser	Gln	Val	Gly	Leu	Asn	Met	Ala	Thr	Pro	Thr	Gln	Asp	Arg	Lys
1505						1510					1515			
Gln	Met	Thr	Thr	Ser	Thr	Leu	Ala	Gln	Ser	Ala	Thr	Glu	Thr	Val
1520						1525					1530			

Gly	Asn	Glu	Ile	Phe	Asp	Ala	Glu	Cys	Leu	Lys	Leu	Ile	Asn	Glu
1535						1540					1545			
Tyr	Phe	Tyr	Gly	Val	Arg	Ile	Tyr	Pro	Gly	Gln	Asp	Pro	Thr	His
1550						1555					1560			
Val	Tyr	Ile	Gly	Trp	Val	Thr	Thr	Gln	Tyr	His	Leu	His	Ser	Lys
1565						1570					1575			
Asp	Phe	Asn	Gln	Ser	Lys	Val	Thr	Lys	Ser	Ser	Val	Ile	Ile	Thr
1580						1585					1590			
Asp	Asp	Tyr	Asp	Arg	Val	Val	Glu	Asn	Val	Asn	Arg	Gln	Ser	Cys
1595						1600					1605			
Tyr	Met	Val	Arg	Ala	Asp	Glu	Leu	Tyr	Asn	Glu	Val	Met	Ala	Glu
1610						1615					1620			
Ala	Thr	Ala	Lys	Gly	Ala	Ser	Gln	Gly	Met	Phe	Ile	Gly	Cys	Ser
1625						1630					1635			
Val	Asp	Thr	Ser	Thr	Gly	Ser	Val	Ser	Phe	Thr	Cys	Glu	Gly	Lys
1640						1645					1650			
Asp	Thr	Ser	Phe	Lys	Phe	Lys	Met	Glu	Pro	Glu	Thr	Lys	Leu	Phe
1655						1660					1665			
Pro	Ala	Ile	Phe	Val	Glu	Ala	Thr	Ser	Lys	Glu	Ile	Leu	Gln	Ile
1670						1675					1680			
Glu	Leu	Gly	Arg	Ser	Ala	Thr	Ser	Leu	Pro	Leu	Ser	Ala	Ala	Val
1685						1690					1695			
Leu	Pro	Thr	Ser	Asp	Lys	His	Val	Ile	Pro	Gln	Phe	Pro	Pro	Arg
1700						1705					1710			
Leu	Lys	Val	Gln	Cys	Leu	Lys	Pro	His	Gln	Trp	Ala	Arg	Val	Pro
1715						1720					1725			
Asn	Gln	Ser	Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp	Ile	Arg
1730						1735					1740			
Gly	Trp	Ser	Met	Leu	Cys	Glu	Asp	Ala	Val	Ser	Met	Leu	Ala	Leu
1745						1750					1755			
His	Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu	Leu	Ile
1760						1765					1770			
Glu	Met	Asp	Lys	Leu	Leu	Ser	Phe	His	Ser	His	Thr	Leu	Thr	Leu
1775						1780					1785			
Tyr	Ala	Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala
1790						1795					1800			
Leu	Cys	Thr	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Gln
1805						1810					1815			
Ser	Gln	Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu
1820						1825					1830			

Leu	Ile	Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Ala
1835						1840					1845			
Cys	Lys	Asn	Glu	Phe	Val	Ile	Pro	Leu	Gly	Pro	Glu	Leu	Lys	Ala
1850						1855					1860			
Leu	Tyr	Glu	Glu	Pro	Asp	Met	Gly	His	Ser	Leu	Arg	Ser	Leu	Gln
1865						1870					1875			
Thr	Glu	Ser	Val	Arg	Pro	Gln	Met	Lys	Met	Thr	Asp	Ile	Ala	Glu
1880						1885					1890			
Ser	Ile	Thr	Glu	Ile	Ser	Asn	Leu	Tyr	Ser	Pro	Tyr	Phe	Pro	Leu
1895						1900					1905			
Glu	Val	Val	Arg	Glu	Phe	Val	Met	Gln	Ala	Leu	Ala	Glu	Ala	Val
1910						1915					1920			
Glu	Thr	Asn	Gln	Val	His	Asn	Arg	Asp	Pro	Val	Gly	Gly	Ser	Asn
1925						1930					1935			
Glu	Asn	Leu	Phe	Leu	Pro	Leu	Ile	Lys	Leu	Val	Asp	Arg	Leu	Leu
1940						1945					1950			
Leu	Val	Gly	Met	Met	Arg	Asp	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile
1955						1960					1965			
Met	Thr	Asn	Pro	Glu	Thr	Trp	Asp	Pro	Ser	Phe	Asp	Lys	Glu	Gly
1970						1975					1980			
Lys	Asp	Glu	His	Arg	Lys	Gly	Leu	Leu	His	Met	Lys	Met	Ala	Glu
1985						1990					1995			
Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	Gln	His	Leu	Asn	Asp
2000						2005					2010			
Ile	Gln	Leu	Arg	His	Arg	Val	Glu	Ala	Ile	Ile	Ala	Phe	Ala	His
2015						2020					2025			
Asp	Phe	Val	Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Thr
2030						2035					2040			
Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys
2045						2050					2055			
Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile
2060						2065					2070			
Leu	Ser	Phe	Lys	His	Leu	Glu	Glu	Glu	Asp	Lys	Glu	Asn	Cys	Pro
2075						2080					2085			
Cys	Gly	Glu	Glu	Leu	Ile	Ala	Arg	Met	Asn	Glu	Phe	His	Asp	Thr
2090						2095					2100			
Leu	Met	Ala	His	Val	Ser	Leu	His	Ala	Leu	Gln	Glu	Pro	Asp	Ala
2105						2110					2115			
Ala	Glu	Asn	Gln	Glu	Pro	Glu	Ala	Lys	Pro	Gly	Ala	Phe	Gly	Lys
2120						2125					2130			

Leu Tyr	Asn Ile Ile Asn Thr	Val Lys Glu Leu Glu	Glu Glu Ala
2135	2140	2145	
Lys Ala	Ile Glu Glu Pro Pro	Lys Lys Thr Pro Glu	Glu Lys Phe
2150	2155	2160	
Arg Lys	Val Leu Ile Gln Thr	Ile Val Asn Trp Ala	Glu Glu Ser
2165	2170	2175	
Gln Ile	Glu Thr Pro Lys Leu	Val Arg Glu Met Phe	Ser Leu Leu
2180	2185	2190	
Val Arg	Gln Tyr Asp Ala Val	Gly Glu Leu Ile Arg	Ala Leu Glu
2195	2200	2205	
Lys Thr	Tyr Val Ile Asn Ala	Lys Thr Lys Leu Asp	Val Ala Gly
2210	2215	2220	
Met Trp	Val Gly Leu Ser Gln	Ile Arg Ala Leu Leu	Pro Val Gln
2225	2230	2235	
Met Ser	Gln Glu Glu Glu Glu	Leu Met Arg Lys Arg	Leu Trp Lys
2240	2245	2250	
Leu Val	Asn Asn His Thr Phe	Phe Gln His Pro Asp	Leu Ile Arg
2255	2260	2265	
Val Leu	Arg Val His Glu Asn	Val Met Ala Val Met	Met Asn Thr
2270	2275	2280	
Leu Gly	Arg Arg Ala Gln Ala	Gln Ser Asp Ala Gln	Pro Ser Ser
2285	2290	2295	
Gln Pro	Val Ala Glu Asp Asn	Lys Glu Lys Asp Thr	Ser His Glu
2300	2305	2310	
Met Val	Val Ala Cys Cys Arg	Phe Leu Cys Tyr Phe	Cys Arg Thr
2315	2320	2325	
Gly Arg	Gln Asn Gln Lys Ala	Met Phe Asp His Phe	Asp Phe Leu
2330	2335	2340	
Leu Glu	Asn Ser Asn Ile Leu	Leu Ser Arg Pro Ser	Leu Arg Gly
2345	2350	2355	
Ser Thr	Pro Leu Asp Val Ala	Tyr Ser Ser Leu Met	Glu Asn Thr
2360	2365	2370	
Glu Leu	Ala Leu Ala Leu Arg	Glu His Tyr Leu Glu	Lys Ile Ala
2375	2380	2385	
Val Tyr	Leu Ser Arg Cys Gly	Leu Gln Ser Asn Ser	Glu Leu Val
2390	2395	2400	
Glu Lys	Gly Tyr Pro Asp Leu	Gly Trp Asp Pro Val	Glu Gly Glu
2405	2410	2415	
Arg Tyr	Leu Asp Phe Leu Arg	Phe Cys Val Trp Val	Asn Gly Glu
2420	2425	2430	

Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu	Ile	Arg
2435						2440					2445			
Arg	Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly	Glu	Gly
2450						2455					2460			
Leu	Leu	Lys	Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu	Arg	Ile
2465						2470					2475			
Ala	Asp	Arg	Arg	Lys	Leu	Arg	Glu	Met	Glu	Gln	Glu	Gly	Asp	Val
2480						2485					2490			
Asn	Phe	Ser	His	Pro	Leu	Pro	Glu	Ser	Asp	Glu	Asp	Glu	Asp	Tyr
2495						2500					2505			
Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr	Leu	Val
2510						2515					2520			
Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Gly	Val	Ile	Ala	Leu
2525						2530					2535			
Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg	Ser	Leu
2540						2545					2550			
Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Arg	Phe	Thr
2555						2560					2565			
Leu	Asn	Asn	Pro	Ala	Ala	Gly	Glu	Glu	Arg	Pro	Lys	Ser	Asp	Met
2570						2575					2580			
Pro	Ser	Gly	Leu	Ile	Pro	Gly	His	Lys	Gln	Ser	Val	Gly	Leu	Phe
2585						2590					2595			
Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Thr	Gln	Glu	Leu	Phe	Tyr	Lys
2600						2605					2610			
Leu	Leu	Glu	Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	Ala	Thr	Met
2615						2620					2625			
Leu	Asp	Arg	Asn	Asp	Gly	Cys	Glu	Ser	Asp	Met	Ala	Leu	Ser	Met
2630						2635					2640			
Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile	Lys	His
2645						2650					2655			
Ala	Tyr	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu	Leu	Asp
2660						2665					2670			
Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg	Met	Leu
2675						2680					2685			
Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val	Ala	Leu
2690						2695					2700			
Thr	Ser	Ala	Met	Gln	Pro	Ser	Met	Leu	Leu	Lys	Leu	Leu	Arg	Lys
2705						2710					2715			
Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr	Val	Ala
2720						2725					2730			

Leu	Arg	Leu	Leu	Thr	Leu	His	Tyr	Glu	Arg	Cys	Ala	Lys	Tyr	Tyr
2735						2740					2745			
Gly	Ser	Thr	Gly	Ala	Gly	Gln	Gly	Ala	Phe	Gly	Ala	Ser	Ser	Asp
2750						2755					2760			
Glu	Glu	Lys	Arg	Leu	Thr	Met	Met	Leu	Phe	Ser	Asn	Ile	Phe	Asp
2765						2770					2775			
Ser	Leu	Ser	Lys	Met	Asp	Tyr	Glu	Pro	Glu	Leu	Phe	Gly	Lys	Ala
2780						2785					2790			
Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro	Asp	Tyr
2795						2800					2805			
Ser	Leu	Ser	Lys	Asn	Tyr	Asp	Asp	Glu	Phe	Tyr	Gly	Lys	Glu	Gln
2810						2815					2820			
Ala	Ala	Gly	Asp	Leu	Asp	Asn	Pro	Gln	Tyr	Asp	Pro	Gln	Pro	Ile
2825						2830					2835			
Asn	Thr	Ser	Ser	Val	Ala	Leu	Asn	Asn	Asp	Leu	Asn	Thr	Ile	Val
2840						2845					2850			
Gln	Lys	Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser	Arg	Lys
2855						2860					2865			
Ile	Glu	Asn	Gly	Trp	Val	Tyr	Gly	Glu	Gly	Trp	Ser	Asp	Ser	Gln
2870						2875					2880			
Lys	Thr	His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Asn	Asp	Tyr
2885						2890					2895			
Glu	Lys	Glu	Arg	Tyr	Lys	Glu	Pro	Val	Arg	Glu	Ser	Leu	Lys	Ala
2900						2905					2910			
Leu	Leu	Ala	Ile	Gly	Trp	Ser	Val	Glu	His	Ser	Glu	Val	Asp	Ile
2915						2920					2925			
Pro	Ser	Asn	Asn	Arg	Ser	Ser	Met	Arg	Arg	Gln	Ser	Lys	Ser	Gly
2930						2935					2940			
Gly	Arg	Pro	Pro	Glu	Ile	Val	Gln	Thr	Asp	Ser	Ala	Thr	Pro	Phe
2945						2950					2955			
Asn	Tyr	Asn	Pro	His	Pro	Val	Asp	Met	Thr	Asn	Leu	Thr	Leu	Ser
2960						2965					2970			
Arg	Glu	Met	Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Asp	Asn	Ala	His
2975						2980					2985			
Asp	Ile	Trp	Ala	Lys	Lys	Lys	Lys	Glu	Glu	Leu	Val	Thr	Asn	Gly
2990						2995					3000			
Gly	Gly	Ile	His	Pro	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp
3005						3010					3015			
Lys	Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys
3020						3025					3030			

Tyr	Leu	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Ser	Lys	Ala
3035						3040					3045			
Pro	Gln	Ser	Asp	Thr	Glu	Gln	Thr	Thr	Thr	Gly	Val	Ala	Ile	Glu
3050						3055					3060			
Leu	Arg	Phe	Ala	Tyr	Ser	Leu	Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Ile
3065						3070					3075			
Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr
3080						3085					3090			
Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys	Thr	Ser	Thr	Arg	Asp	Ile	Lys
3095						3100					3105			
Phe	Phe	Ser	Lys	Val	Val	Leu	Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser
3110						3115					3120			
Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Thr	Asn	Asn
3125						3130					3135			
Val	Gly	Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu	Met	Val	Ala	Ala	Leu
3140						3145					3150			
Phe	Cys	Lys	Leu	Ala	Ser	Leu	Leu	Arg	Ser	Arg	Leu	Ala	Ala	Phe
3155						3160					3165			
Gly	Pro	Asp	Val	Arg	Ile	Thr	Val	Arg	Cys	Leu	Gln	Val	Leu	Val
3170						3175					3180			
Lys	Gly	Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	Glu	Phe
3185						3190					3195			
Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn	Asn	Val	Ala	Asp	Asp
3200						3205					3210			
Val	Gly	His	Thr	Ile	Met	Asn	Leu	Gln	Asp	Gly	Lys	Tyr	Ala	His
3215						3220					3225			
Leu	Arg	Gly	Thr	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Gly	Tyr	Ile
3230						3235					3240			
Asn	Gly	Val	Leu	Leu	Pro	Ile	Leu	Thr	Ala	Lys	Phe	Asp	His	Leu
3245						3250					3255			
Ala	Asn	Cys	Glu	Tyr	Gly	Ala	Asp	Leu	Leu	Leu	Asp	Glu	Ile	Gln
3260						3265					3270			
Val	Ala	Ser	Tyr	Lys	Met	Leu	Gly	Ser	Leu	Tyr	Ala	Leu	Gly	Thr
3275						3280					3285			
Asp	Ala	Ser	Leu	Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys	Thr	Glu	Ile
3290						3295					3300			
Glu	Arg	His	Lys	Pro	Ala	Leu	Gly	Ser	Cys	Leu	Gly	Ala	Phe	Ser
3305						3310					3315			
Ser	Thr	Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro	His	Leu	Asn	Lys	His
3320						3325					3330			

Asn	Gln	Phe	Ser	Leu	Leu	Asn	Arg	Ile	Ala	Asp	His	Ser	Leu	Glu
3335						3340					3345			
Ala	Gln	Asp	Ile	Met	Gln	Lys	Met	Glu	Gln	Cys	Met	Pro	Thr	Leu
3350						3355					3360			
Glu	Ala	Ile	Leu	Gly	Glu	Val	Asp	Gln	Phe	Val	Glu	Ser	Asp	Lys
3365						3370					3375			
Thr	Tyr	Asn	Glu	Ala	Pro	His	Ile	Ile	Asp	Val	Val	Leu	Pro	Leu
3380						3385					3390			
Leu	Cys	Ser	Tyr	Leu	Pro	Phe	Trp	Trp	Ala	Gln	Gly	Pro	Asp	Asn
3395						3400					3405			
Val	Thr	Pro	Thr	Gly	Gly	Asn	His	Val	Thr	Met	Val	Thr	Ala	Glu
3410						3415					3420			
His	Met	Asn	Gln	Leu	Leu	Lys	Asn	Val	Leu	Lys	Leu	Ile	Lys	Lys
3425						3430					3435			
Asn	Ile	Gly	Asn	Glu	Asn	Ala	Pro	Trp	Met	Thr	Arg	Ile	Ala	Thr
3440						3445					3450			
Tyr	Thr	Gln	Gln	Ile	Ile	Ile	Asn	Ser	Ser	Glu	Glu	Leu	Leu	Arg
3455						3460					3465			
Asp	Ser	Phe	Leu	Pro	Leu	Ala	Glu	Arg	Val	Arg	Lys	Arg	Thr	Asp
3470						3475					3480			
Asn	Met	Phe	His	Lys	Glu	Glu	Ser	Leu	Arg	Gly	Phe	Ile	Lys	Ser
3485						3490					3495			
Ser	Thr	Asp	Asp	Thr	Ser	Gln	Val	Glu	Ser	Gln	Ile	Gln	Glu	Asp
3500						3505					3510			
Trp	Gln	Leu	Leu	Val	Arg	Asp	Ile	Tyr	Ser	Phe	Tyr	Pro	Leu	Leu
3515						3520					3525			
Ile	Lys	Tyr	Val	Asp	Leu	Gln	Arg	Asn	His	Trp	Leu	Arg	Asn	Asn
3530						3535					3540			
Val	Pro	Glu	Ala	Glu	Glu	Leu	Tyr	Asn	His	Val	Ala	Glu	Ile	Phe
3545						3550					3555			
Asn	Ile	Trp	Ser	Lys	Ser	Gln	Tyr	Phe	Leu	Lys	Glu	Glu	Gln	Asn
3560						3565					3570			
Phe	Ile	Ser	Ala	Asn	Glu	Ile	Asp	Asn	Met	Val	Leu	Ile	Met	Pro
3575						3580					3585			
Thr	Ala	Thr	Arg	Arg	Val	Thr	Ala	Val	Thr	Asp	Gly	Thr	Pro	Gln
3590						3595					3600			
Gly	Gly	Gly	Lys	Lys	Lys	Lys	Lys	His	Arg	Asp	Lys	Lys	Arg	Asp
3605						3610					3615			
Lys	Asp	Lys	Glu	Val	Gln	Ala	Ser	Leu	Met	Val	Ala	Cys	Leu	Lys
3620						3625					3630			

Arg	Leu	Leu	Pro	Val	Gly	Leu	Asn	Leu	Phe	Ala	Gly	Arg	Glu	Gln
3635						3640					3645			
Glu	Leu	Val	Gln	His	Cys	Lys	Asp	Arg	Phe	Leu	Lys	Val	Gly	Thr
3650						3655					3660			
Leu	Lys	Lys	Met	Ser	Glu	Gln	Asp	Val	Ala	Glu	Phe	Ala	Lys	Thr
3665						3670					3675			
Gln	Leu	Thr	Leu	Pro	Asp	Lys	Ile	Asp	Pro	Ala	Asp	Glu	Met	Ser
3680						3685					3690			
Trp	Gln	His	Tyr	Leu	Tyr	Ser	Lys	Leu	Gly	Ser	Lys	Ser	Lys	Ser
3695						3700					3705			
Asn	Ile	Thr	Val	Glu	Thr	Ala	Glu	Asn	Lys	Ala	Lys	Ile	Ile	Asp
3710						3715					3720			
Asp	Thr	Val	Glu	Arg	Ile	Val	Ala	Met	Ser	Lys	Val	Leu	Phe	Gly
3725						3730					3735			
Leu	His	Met	Ile	Asp	His	Pro	Gln	Gln	Met	Ser	Lys	Asn	Val	Tyr
3740						3745					3750			
Arg	Ser	Val	Val	Ser	Ile	Gln	Arg	Lys	Arg	Ala	Val	Ile	Ala	Cys
3755						3760					3765			
Phe	Arg	Gln	Thr	Ser	Leu	His	Ser	Leu	Pro	Arg	His	Arg	Ala	Cys
3770						3775					3780			
Asn	Ile	Phe	Ala	Arg	Thr	Tyr	Tyr	Glu	Leu	Trp	Leu	Glu	Glu	Glu
3785						3790					3795			
Asn	Ile	Gly	Gln	Glu	Val	Met	Ile	Glu	Asp	Leu	Thr	Gln	Ser	Phe
3800						3805					3810			
Glu	Asp	Ala	Glu	Leu	Lys	Lys	Ser	Asp	Val	Val	Glu	Glu	Gly	Glu
3815						3820					3825			
Lys	Pro	Asp	Pro	Leu	Thr	Gln	Leu	Val	Thr	Thr	Phe	Cys	Arg	Gly
3830						3835					3840			
Ala	Met	Thr	Glu	Arg	Ser	Gly	Ala	Leu	Gln	Glu	Asp	Pro	Leu	Tyr
3845						3850					3855			
Met	Ser	Tyr	Ala	His	Ile	Ile	Ala	Lys	Ser	Cys	Gly	Glu	Glu	Glu
3860						3865					3870			
Glu	Glu	Gly	Gly	Gly	Glu	Glu	Glu	Glu	Gly	Gly	Gly	Glu	Ala	Glu
3875						3880					3885			
Ala	Glu	Asp	Glu	Gly	Arg	Ala	Ser	Ile	His	Glu	Gln	Glu	Met	Glu
3890						3895					3900			
Lys	Gln	Lys	Leu	Leu	Phe	His	Gln	Ala	Arg	Leu	Ala	Asp	Arg	Gly
3905						3910					3915			
Val	Ala	Glu	Met	Val	Leu	Leu	His	Ile	Ser	Ala	Ser	Lys	Gly	Leu
3920						3925					3930			

Pro	Ser	Glu	Met	Val	Met	Lys	Thr	Leu	Gln	Leu	Gly	Ile	Ser	Ile
3935						3940					3945			
Leu	Arg	Gly	Gly	Asn	Ile	Asp	Ile	Gln	Met	Gly	Met	Leu	Asn	His
3950						3955					3960			
Leu	Lys	Asp	Lys	Lys	Asp	Val	Gly	Phe	Phe	Thr	Ser	Ile	Ala	Gly
3965						3970					3975			
Leu	Met	Asn	Ser	Cys	Ser	Val	Leu	Asp	Leu	Asp	Ala	Phe	Glu	Arg
3980						3985					3990			
Asn	Thr	Lys	Ala	Glu	Gly	Leu	Gly	Val	Gly	Leu	Glu	Gly	Ala	Ala
3995						4000					4005			
Gly	Glu	Lys	Asn	Met	His	Asp	Ala	Glu	Phe	Thr	Cys	Ala	Leu	Phe
4010						4015					4020			
Arg	Phe	Ile	Gln	Leu	Thr	Cys	Glu	Gly	His	Asn	Leu	Asp	Trp	Gln
4025						4030					4035			
Asn	Tyr	Leu	Arg	Thr	Gln	Ala	Gly	Asn	Thr	Thr	Thr	Val	Asn	Val
4040						4045					4050			
Val	Ile	Cys	Thr	Val	Asp	Tyr	Leu	Leu	Arg	Leu	Gln	Glu	Ser	Ile
4055						4060					4065			
Met	Asp	Phe	Tyr	Trp	His	Tyr	Ser	Ser	Lys	Glu	Leu	Ile	Asp	Pro
4070						4075					4080			
Ala	Gly	Lys	Ala	Asn	Phe	Phe	Lys	Ala	Ile	Gly	Val	Ala	Ser	Gln
4085						4090					4095			
Val	Phe	Asn	Thr	Leu	Thr	Glu	Val	Ile	Gln	Gly	Pro	Cys	Thr	Gln
4100						4105					4110			
Asn	Gln	Gln	Ala	Leu	Ala	His	Ser	Arg	Leu	Trp	Asp	Ala	Val	Gly
4115						4120					4125			
Gly	Phe	Leu	Phe	Leu	Phe	Ser	His	Met	Gln	Asp	Lys	Leu	Ser	Lys
4130						4135					4140			
His	Ser	Ser	Gln	Val	Asp	Leu	Leu	Lys	Glu	Leu	Leu	Asn	Leu	Gln
4145						4150					4155			
Lys	Asp	Met	Ile	Thr	Met	Met	Leu	Ser	Met	Leu	Glu	Gly	Asn	Val
4160						4165					4170			
Val	Asn	Gly	Thr	Ile	Gly	Lys	Gln	Met	Val	Asp	Thr	Leu	Val	Glu
4175						4180					4185			
Ser	Ala	Ser	Asn	Val	Glu	Leu	Ile	Leu	Lys	Tyr	Phe	Asp	Met	Phe
4190						4195					4200			
Leu	Lys	Leu	Lys	Asp	Leu	Thr	Ser	Ser	Ala	Ser	Phe	Gln	Glu	Ile
4205						4210					4215			
Asp	Ala	Asn	Asn	Asp	Gly	Trp	Val	Leu	Pro	Lys	Asp	Phe	Lys	Glu
4220						4225					4230			

Lys Met	Glu Gln Gln Lys	Ser	Tyr Thr Pro Glu Glu	Ile Glu Phe
4235		4240		4245
Leu Leu	Ala Cys Cys Glu	Thr	Asn His Asp Gly Lys	Leu Asp Tyr
4250		4255		4260
Ile Gly	Phe Cys Asp Arg	Phe	His Glu Pro Ala Lys	Glu Ile Gly
4265		4270		4275
Phe Asn	Leu Ala Val Leu	Leu	Thr Asn Leu Ser Glu	His Met Pro
4280		4285		4290
Asn Glu	Pro Arg Leu Ala	Arg	Phe Leu Glu Thr Ala	Gly Ser Val
4295		4300		4305
Leu Asn	Tyr Phe Glu Pro	Phe	Leu Gly Arg Ile Glu	Ile Met Gly
4310		4315		4320
Gly Ser	Lys Arg Ile Glu	Arg	Val Tyr Phe Glu Ile	Lys Glu Ser
4325		4330		4335
Asn Ile	Glu Gln Trp Glu	Lys	Pro Gln Ile Lys Glu	Ser Lys Arg
4340		4345		4350
Ala Phe	Phe Tyr Ser Ile	Val	Thr Glu Gly Gly Asp	Lys Glu Lys
4355		4360		4365
Leu Glu	Ala Phe Val Asn	Phe	Cys Glu Asp Ala Ile	Phe Glu Met
4370		4375		4380
Thr His	Ala Ser Gly Leu	Met	Ala Ala Ser Glu Glu	Ser Val Gly
4385		4390		4395
Gly Thr	Lys Asn Arg Glu	Ala	Ser Tyr Met Tyr Met	Gly Asp Asp
4400		4405		4410
Asp Asp	Glu Arg Ala Gly	Lys	Asp Pro Phe Arg Arg	Gly Leu Gln
4415		4420		4425
Ser Val	Lys Asp Gly Val	Ala	Thr Ala Phe Ser Ser	Leu Ser Pro
4430		4435		4440
Ser Asn	Ile Lys Ala Lys	Ile	Ala Asp Met Gln Gln	Met Pro Pro
4445		4450		4455
Ala Glu	Leu Ala Val Gly	Phe	Phe Lys Met Phe Phe	Tyr Leu Phe
4460		4465		4470
Tyr Tyr	Leu Gly Tyr Gly	Val	Leu Val Val Val Arg	Tyr Ile Phe
4475		4480		4485
Gly Val	Leu Leu Gly Leu	Met	Arg Gly Pro Gln Thr	Asp Glu Pro
4490		4495		4500
Pro Pro	Glu Pro Thr Glu	Glu	Glu Lys Ile Gly Gln	Leu Arg His
4505		4510		4515
Arg Leu	Leu Ala Thr Gln	Ser	Ser Arg His Leu Pro	Ala Leu Pro
4520		4525		4530

Pro	Ala	Asp	Asp	Thr	Gly	Gln	Met	Gln	Val	Ser	Ala	Phe	Gly	Leu
4535						4540					4545			
Asp	Ile	Thr	Lys	Glu	Asp	Asn	Gly	Gln	Ile	Gln	Val	Lys	Pro	His
4550						4555					4560			
Glu	Ser	Pro	Ser	Thr	Ser	Thr	Pro	Ser	Ser	Gly	Glu	Glu	Ala	Glu
4565						4570					4575			
Val	Ser	Pro	Asp	Glu	Ser	Ala	Asp	His	Thr	Glu	Glu	Gln	Arg	Pro
4580						4585					4590			
Pro	Ser	Leu	Ile	Asp	Leu	Leu	Gly	Gly	Glu	Gln	Ala	Lys	Lys	Gln
4595						4600					4605			
Ala	Gln	Glu	Arg	Met	Glu	Ala	Gln	Ala	Ala	Gln	Gln	Ala	Ala	Met
4610						4615					4620			
Ser	Ala	Ile	Glu	Ala	Glu	Ser	Lys	Lys	Ala	Val	Gln	Gly	Pro	Ala
4625						4630					4635			
Pro	Ser	Ala	Leu	Ser	Gln	Val	Asp	Leu	Ser	Gln	Tyr	Thr	Arg	Arg
4640						4645					4650			
Ala	Val	Ser	Phe	Leu	Ala	Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val
4655						4660					4665			
Ala	Leu	Val	Leu	Ala	Phe	Cys	Ile	Asn	Phe	Val	Leu	Leu	Phe	Tyr
4670						4675					4680			
Lys	Val	Ser	Thr	Leu	Asp	Gly	Glu	Gly	Gly	Glu	Gly	Ser	Gly	Leu
4685						4690					4695			
Gly	Asp	Ile	Ile	Ala	Gly	Gly	Gly	Ser	Gly	Ser	Gly	Ala	Gly	Ser
4700						4705					4710			
Gly	Ser	Gly	Asp	Gly	Ser	Gly	Glu	Ser	Gly	Glu	Asp	Asp	Asp	Ala
4715						4720					4725			
Leu	Glu	Val	Val	His	Ile	Asp	Glu	Asp	Phe	Phe	Tyr	Met	Glu	His
4730						4735					4740			
Val	Ile	Lys	Met	Ala	Ala	Val	Leu	His	Ser	Ile	Val	Ser	Leu	Ala
4745						4750					4755			
Ile	Leu	Ile	Gly	Tyr	Tyr	His	Leu	Lys	Val	Pro	Leu	Ala	Ile	Phe
4760						4765					4770			
Lys	Arg	Glu	Lys	Glu	Ile	Ala	Arg	Lys	Leu	Glu	Phe	Asp	Gly	Leu
4775						4780					4785			
Tyr	Ile	Ala	Glu	Gln	Pro	Glu	Asp	Asp	Asp	Leu	Lys	Ser	His	Trp
4790						4795					4800			
Asp	Lys	Leu	Val	Ile	Ser	Ala	Lys	Ser	Phe	Pro	Val	Asn	Tyr	Trp
4805						4810					4815			
Asp	Lys	Phe	Val	Lys	Lys	Lys	Val	Arg	Ala	Lys	Tyr	Ser	Glu	Thr
4820						4825					4830			

Tyr	Asp	Phe	Asp	Ser	Ile	Ser	Asn	Met	Leu	Gly	Met	Glu	Lys	Thr
4835						4840					4845			
Ser	Phe	Ser	Ala	Gln	Glu	Glu	Glu	Gly	Ser	Lys	Gly	Leu	Ile	His
4850						4855					4860			
Tyr	Ile	Ile	Asn	Ile	Asp	Trp	Arg	Tyr	Gln	Val	Trp	Lys	Ala	Gly
4865						4870					4875			
Val	Thr	Ile	Thr	Asp	Asn	Ser	Phe	Leu	Tyr	Ser	Leu	Trp	Tyr	Phe
4880						4885					4890			
Ser	Phe	Ser	Val	Met	Gly	Asn	Phe	Asn	Asn	Phe	Phe	Phe	Ala	Ala
4895						4900					4905			
His	Leu	Leu	Asp	Val	Ala	Val	Gly	Phe	Lys	Thr	Leu	Arg	Thr	Ile
4910						4915					4920			
Leu	Gln	Ser	Val	Thr	His	Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val
4925						4930					4935			
Met	Leu	Leu	Thr	Ile	Ile	Val	Tyr	Ile	Tyr	Thr	Val	Ile	Ala	Phe
4940						4945					4950			
Asn	Phe	Phe	Arg	Lys	Phe	Tyr	Val	Gln	Glu	Glu	Asp	Asp	Glu	Val
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1430 1435 1440	
ttc ttc aga agc aag cgc ggc gaa agc agt gat cgt gcc aaa tcc	4374
Phe Phe Arg Ser Lys Arg Gly Glu Ser Ser Asp Arg Ala Lys Ser	
1445 1450 1455	

cgt aaa tcc aaa act cca gat	ccc ttc agc gat acc gag gta tca	4419
Arg Lys Ser Lys Thr Pro Asp	Pro Phe Ser Asp Thr Glu Val Ser	
1460	1465 1470	
cca gaa cgt ggt gct cga agg	cct aac cct cag atc aaa gtg tca	4464
Pro Glu Arg Gly Ala Arg Arg	Pro Asn Pro Gln Ile Lys Val Ser	
1475	1480 1485	
cag gcc aat caa aga tat aac	ggc atg aac gcg cgt cct agc agg	4509
Gln Ala Asn Gln Arg Tyr Asn	Gly Met Asn Ala Arg Pro Ser Arg	
1490	1495 1500	
acc aac ttg tat ggg agc caa	gtt ggt tta aac tca aac gct cag	4554
Thr Asn Leu Tyr Gly Ser Gln	Val Gly Leu Asn Ser Asn Ala Gln	
1505	1510 1515	
atg gcg acg ccc acg caa gac	agg aag cag atg acg acg agc act	4599
Met Ala Thr Pro Thr Gln Asp	Arg Lys Gln Met Thr Thr Ser Thr	
1520	1525 1530	
ctc gcg cag tcg gct acg gaa	act gtc ggc aat gag atc ttc gat	4644
Leu Ala Gln Ser Ala Thr Glu	Thr Val Gly Asn Glu Ile Phe Asp	
1535	1540 1545	
gca gag tgc ttg aag ctc atc	aat gag tac ttt tat gga gtc agg	4689
Ala Glu Cys Leu Lys Leu Ile	Asn Glu Tyr Phe Tyr Gly Val Arg	
1550	1555 1560	
atc tac cca ggt cag gac cca	aca cac gtg tac atc ggc tgg gtg	4734
Ile Tyr Pro Gly Gln Asp Pro	Thr His Val Tyr Ile Gly Trp Val	
1565	1570 1575	
acc acc cag tac cac ttg cac	tct aag gac ttc aac cag agc aag	4779
Thr Thr Gln Tyr His Leu His	Ser Lys Asp Phe Asn Gln Ser Lys	
1580	1585 1590	
gtc acc aag tcc tct gtc atc	atc act gat gat tac gat agg gtt	4824
Val Thr Lys Ser Ser Val Ile	Ile Thr Asp Asp Tyr Asp Arg Val	
1595	1600 1605	
gtt gag aac gta aac cgg cag	tcc tgc tac atg gtg cga gct gac	4869
Val Glu Asn Val Asn Arg Gln	Ser Cys Tyr Met Val Arg Ala Asp	
1610	1615 1620	
gag cta tac aac gag gtg atg	gcg gaa gcc acg gcc aag ggc gcc	4914
Glu Leu Tyr Asn Glu Val Met	Ala Glu Ala Thr Ala Lys Gly Ala	
1625	1630 1635	
tcg cag ggc atg ttc atc ggc	tgc tcc gtc gac acc tcc acc ggc	4959
Ser Gln Gly Met Phe Ile Gly	Cys Ser Val Asp Thr Ser Thr Gly	
1640	1645 1650	
agc gtg tcc ttc acc tgc gag	ggg aag gac acc agc ttc aag ttc	5004
Ser Val Ser Phe Thr Cys Glu	Gly Lys Asp Thr Ser Phe Lys Phe	
1655	1660 1665	
aag atg gaa cca gaa aca aaa	ctg ttc ccc gcg atc ttc gta gaa	5049
Lys Met Glu Pro Glu Thr Lys	Leu Phe Pro Ala Ile Phe Val Glu	
1670	1675 1680	

gcg acc tcc aag gag atc ctg cag ata gag ctg ggc aga tca gcc Ala Thr Ser Lys Glu Ile Leu Gln Ile Glu Leu Gly Arg Ser Ala 1685 1690 1695	5094
acc agc ctt cca cta tca gcc gct gta cta cca acg agt gat aag Thr Ser Leu Pro Leu Ser Ala Ala Val Leu Pro Thr Ser Asp Lys 1700 1705 1710	5139
cat gtc ata cca cag ttc cca ccg agg ttg aag gtg cag tgc ttg His Val Ile Pro Gln Phe Pro Pro Arg Leu Lys Val Gln Cys Leu 1715 1720 1725	5184
aaa cca cat cag tgg gct agg gta ccg aac caa tcc cta caa gtc Lys Pro His Gln Trp Ala Arg Val Pro Asn Gln Ser Leu Gln Val 1730 1735 1740	5229
cac gct ctg aag ttg tcc gac atc cgc ggt tgg tcg atg ctg tgt His Ala Leu Lys Leu Ser Asp Ile Arg Gly Trp Ser Met Leu Cys 1745 1750 1755	5274
gaa gac gca gtg tct atg ctg gct ttg cac ata ccg gag gaa gat Glu Asp Ala Val Ser Met Leu Ala Leu His Ile Pro Glu Glu Asp 1760 1765 1770	5319
cgt tgc atg gac att ttg gag ctg ata gaa atg gac aaa ctt tta Arg Cys Met Asp Ile Leu Glu Leu Ile Glu Met Asp Lys Leu Leu 1775 1780 1785	5364
agt ttc cat tct cac acc ctc acg tta tac gct gct tta tgt tac Ser Phe His Ser His Thr Leu Thr Leu Tyr Ala Ala Leu Cys Tyr 1790 1795 1800	5409
cag agt aac tac agg gct gcc cac gct ctg tgc acg cac gtg gac Gln Ser Asn Tyr Arg Ala Ala His Ala Leu Cys Thr His Val Asp 1805 1810 1815	5454
cag aag cag ctg ctg tac gcg atc cag tcg cag tac atg tcg ggc Gln Lys Gln Leu Leu Tyr Ala Ile Gln Ser Gln Tyr Met Ser Gly 1820 1825 1830	5499
ccg ctg cgc caa ggc ttc tac gat ctt ctc ata gcg ctg cat ctc Pro Leu Arg Gln Gly Phe Tyr Asp Leu Leu Ile Ala Leu His Leu 1835 1840 1845	5544
gag tcg cat gcc acc acc atg gag gcg tgt aag aac gag ttc gtg Glu Ser His Ala Thr Thr Met Glu Ala Cys Lys Asn Glu Phe Val 1850 1855 1860	5589
atc ccg ctg ggc ccg gag ctg aag gcg ctg tac gag gag ccc gac Ile Pro Leu Gly Pro Glu Leu Lys Ala Leu Tyr Glu Glu Pro Asp 1865 1870 1875	5634
atg gga cac tcg ctg cgc tcg ctg cag acc gag agc gtg cgg ccg Met Gly His Ser Leu Arg Ser Leu Gln Thr Glu Ser Val Arg Pro 1880 1885 1890	5679
cag atg aag atg acc gat atc gct gaa agt ata acc gag atc agc Gln Met Lys Met Thr Asp Ile Ala Glu Ser Ile Thr Glu Ile Ser 1895 1900 1905	5724

aac cta tac tcg ccg tac ttc	ccg ctg gag gtg gtg	cgc gag ttc	5769
Asn Leu Tyr Ser Pro Tyr Phe	Pro Leu Glu Val Val	Arg Glu Phe	
1910	1915	1920	
gtg atg cag gcg ctg gct gaa	gcc gtg gag acc aac	cag gtg cac	5814
Val Met Gln Ala Leu Ala Glu	Ala Val Glu Thr Asn	Gln Val His	
1925	1930	1935	
aac cgg gat cct gtc ggg ggg	agc aat gag aac ctg	ttc ctg cct	5859
Asn Arg Asp Pro Val Gly Gly	Ser Asn Glu Asn Leu	Phe Leu Pro	
1940	1945	1950	
cta ata aag ctg gtg gac cgt	ctt cta cta gtc ggc	atg atg cgc	5904
Leu Ile Lys Leu Val Asp Arg	Leu Leu Leu Val Gly	Met Met Arg	
1955	1960	1965	
gac gag gat gtg gag aag cta	ctc atc atg acc aac	cct gag acg	5949
Asp Glu Asp Val Glu Lys Leu	Leu Ile Met Thr Asn	Pro Glu Thr	
1970	1975	1980	
tgg gac ccc tcg ttt gat aaa	ggg ggt aaa gac gag	cac cgc aaa	5994
Trp Asp Pro Ser Phe Asp Lys	Gly Gly Lys Asp Glu	His Arg Lys	
1985	1990	1995	
ggt cta ctc cac atg aaa atg	gcg gaa ggc gct aag	ctg cag atg	6039
Gly Leu Leu His Met Lys Met	Ala Glu Gly Ala Lys	Leu Gln Met	
2000	2005	2010	
tgt tac tta ctg caa cat ctc	aac gac ata cag ctg	cgg cac agg	6084
Cys Tyr Leu Leu Gln His Leu	Asn Asp Ile Gln Leu	Arg His Arg	
2015	2020	2025	
gtc gaa gct atc att gcg ttt	gcg cat gac ttc gtc	ggt gat cta	6129
Val Glu Ala Ile Ile Ala Phe	Ala His Asp Phe Val	Gly Asp Leu	
2030	2035	2040	
cag act gat cag ctc aga cgt	tac acg gaa atc aag	cag tcg gac	6174
Gln Thr Asp Gln Leu Arg Arg	Tyr Thr Glu Ile Lys	Gln Ser Asp	
2045	2050	2055	
ttg ccg agc gcg gtg gcc gct	aag aag acc agg gag	ttc cgg tgt	6219
Leu Pro Ser Ala Val Ala Ala	Lys Lys Thr Arg Glu	Phe Arg Cys	
2060	2065	2070	
ccg cct aga gaa cag atg aac	gct ata ttg agt ttc	aag cac tta	6264
Pro Pro Arg Glu Gln Met Asn	Ala Ile Leu Ser Phe	Lys His Leu	
2075	2080	2085	
gag gag gag gac aag gag aac	tgt ccg tgc ggc gag	gag ctg atc	6309
Glu Glu Glu Asp Lys Glu Asn	Cys Pro Cys Gly Glu	Glu Leu Ile	
2090	2095	2100	
gcg cgc atg aac gag ttc cac	gac acc ctc atg gcg	cac gtc tcg	6354
Ala Arg Met Asn Glu Phe His	Asp Thr Leu Met Ala	His Val Ser	
2105	2110	2115	
ctg cac gcg ctg cag gag ccc	gat gcc gcg gaa aat	caa gaa cct	6399
Leu His Ala Leu Gln Glu Pro	Asp Ala Ala Glu Asn	Gln Glu Pro	
2120	2125	2130	

gaa gca	aaa ccg	ggg gca	ttc	ggc aag	cta tac	aac	att atc	aat	6444
Glu Ala	Lys Pro	Gly Ala	Phe	Gly Lys	Leu Tyr	Asn	Ile Ile	Asn	
2135			2140			2145			
acg gtc	aag gaa	tta gaa	gag	gaa gct	aag gca	ata	gaa gag	cct	6489
Thr Val	Lys Glu	Leu Glu	Glu	Glu Ala	Lys Ala	Ile	Glu Glu	Pro	
2150			2155			2160			
ccg aag	aag acg	cct gag	gag	aag ttc	cgt aag	gtc	ctc atc	cag	6534
Pro Lys	Lys Thr	Pro Glu	Glu	Lys Phe	Arg Lys	Val	Leu Ile	Gln	
2165			2170			2175			
acc ata	gtg aac	tgg gct	gag	gag tcg	cag ata	gaa	aca ccc	aaa	6579
Thr Ile	Val Asn	Trp Ala	Glu	Glu Ser	Gln Ile	Glu	Thr Pro	Lys	
2180			2185			2190			
ctc gtc	aga gaa	atg ttc	agc	ctt ctt	gtc cgc	cag	tac gac	gca	6624
Leu Val	Arg Glu	Met Phe	Ser	Leu Leu	Val Arg	Gln	Tyr Asp	Ala	
2195			2200			2205			
gta ggc	gag ctg	atc cgc	gct	tta gag	aag aca	tac	gtc atc	aac	6669
Val Gly	Glu Leu	Ile Arg	Ala	Leu Glu	Lys Thr	Tyr	Val Ile	Asn	
2210			2215			2220			
gct aag	acc aag	ttg gat	gtc	gcg gag	atg tgg	gtg	ggg ctc	agc	6714
Ala Lys	Thr Lys	Leu Asp	Val	Ala Glu	Met Trp	Val	Gly Leu	Ser	
2225			2230			2235			
cag atc	cga gcc	ctc ctg	ccg	gtg cag	atg agc	cag	gag gaa	gag	6759
Gln Ile	Arg Ala	Leu Leu	Pro	Val Gln	Met Ser	Gln	Glu Glu	Glu	
2240			2245			2250			
gaa ctc	atg agg	aag agg	ctc	tgg aaa	ctt gtg	aac	aac cac	acg	6804
Glu Leu	Met Arg	Lys Arg	Leu	Trp Lys	Leu Val	Asn	Asn His	Thr	
2255			2260			2265			
ttc ttc	cag cat	cca gac	tta	atc aga	gtg ctc	cgc	gtg cac	gag	6849
Phe Phe	Gln His	Pro Asp	Leu	Ile Arg	Val Leu	Arg	Val His	Glu	
2270			2275			2280			
aac gtg	atg gcg	gtg atg	atg	aac acg	ctc ggc	cgc	cgc gcg	cag	6894
Asn Val	Met Ala	Val Met	Met	Asn Thr	Leu Gly	Arg	Arg Ala	Gln	
2285			2290			2295			
gcg cag	tcc gac	gca cag	ccc	tcc tcg	cag cct	gtc	gca gag	gat	6939
Ala Gln	Ser Asp	Ala Gln	Pro	Ser Ser	Gln Pro	Val	Ala Glu	Asp	
2300			2305			2310			
aac aag	gag aag	gac aca	tca	cac gag	atg gtg	gta	gct tgc	tgc	6984
Asn Lys	Glu Lys	Asp Thr	Ser	His Glu	Met Val	Val	Ala Cys	Cys	
2315			2320			2325			
cgt ttc	ctc tgc	tac ttc	tgc	cgc acc	ggg aga	cag	aac cag	aag	7029
Arg Phe	Leu Cys	Tyr Phe	Cys	Arg Thr	Gly Arg	Gln	Asn Gln	Lys	
2330			2335			2340			
gca atg	ttc gac	cac ttc	gac	ttc ctc	ctg gag	aac	tcc aac	atc	7074
Ala Met	Phe Asp	His Phe	Asp	Phe Leu	Leu Glu	Asn	Ser Asn	Ile	
2345			2350			2355			

ttg ctg tcc aga cct tcg ctg	aga gga tcc acg cct	cta gac gtg	7119
Leu Leu Ser Arg Pro Ser Leu	Arg Gly Ser Thr Pro	Leu Asp Val	
2360	2365	2370	
gct tat tcc agt ctt atg gag	aac act gaa ctg gcg	ctg gct ttg	7164
Ala Tyr Ser Ser Leu Met Glu	Asn Thr Glu Leu Ala	Leu Ala Leu	
2375	2380	2385	
aga gag cac tac ctg gag aag	ata gca gta tac ctg	tcc cgt tgt	7209
Arg Glu His Tyr Leu Glu Lys	Ile Ala Val Tyr Leu	Ser Arg Cys	
2390	2395	2400	
ggt ctg cag agc aac tcg gag	ctg gtg gag aag ggg	tac cct gac	7254
Gly Leu Gln Ser Asn Ser Glu	Leu Val Glu Lys Gly	Tyr Pro Asp	
2405	2410	2415	
ctc ggc tgg gat ccg gtc gag	ggg gag cgg tat ctt	gac ttc ctg	7299
Leu Gly Trp Asp Pro Val Glu	Gly Glu Arg Tyr Leu	Asp Phe Leu	
2420	2425	2430	
agg ttc tgt gtt tgg gta aac	ggc gaa agc gta gaa	gaa aac gcg	7344
Arg Phe Cys Val Trp Val Asn	Gly Glu Ser Val Glu	Glu Asn Ala	
2435	2440	2445	
aat cta gtg atc cgt ctc ctg	atc cgt cgt ccg gag	tgc ctc ggg	7389
Asn Leu Val Ile Arg Leu Leu	Ile Arg Arg Pro Glu	Cys Leu Gly	
2450	2455	2460	
ccg gcg ctg cgc ggc gag ggc	gag ggc ctg ctg aag	gct atc gtc	7434
Pro Ala Leu Arg Gly Glu Gly	Glu Gly Leu Leu Lys	Ala Ile Val	
2465	2470	2475	
gac gcc aac aag atg agc gag	agg atc gcc gac agg	agg aag ctc	7479
Asp Ala Asn Lys Met Ser Glu	Arg Ile Ala Asp Arg	Arg Lys Leu	
2480	2485	2490	
agg gaa atg gag cag gaa gga	gat gtt aac ttc agc	cac cct ctc	7524
Arg Glu Met Glu Gln Glu Gly	Asp Val Asn Phe Ser	His Pro Leu	
2495	2500	2505	
ccg gag tca gat gag gat gag	gac tac ata gac acg	ggg gcc gcc	7569
Pro Glu Ser Asp Glu Asp Glu	Asp Tyr Ile Asp Thr	Gly Ala Ala	
2510	2515	2520	
atc ttg aac ttc tac tgt aca	ttg gta gat ctg ctc	gga aga tgt	7614
Ile Leu Asn Phe Tyr Cys Thr	Leu Val Asp Leu Leu	Gly Arg Cys	
2525	2530	2535	
gct cct gat gct ggc gtt att	gct ctc ggc aag aac	gag tct ctc	7659
Ala Pro Asp Ala Gly Val Ile	Ala Leu Gly Lys Asn	Glu Ser Leu	
2540	2545	2550	
cgt gcc cgc gct atc ctg cgg	tcg ctg gtg ccg ctg	gag gac ctg	7704
Arg Ala Arg Ala Ile Leu Arg	Ser Leu Val Pro Leu	Glu Asp Leu	
2555	2560	2565	
cag gga gtg ctg agc ctg cgc	ttc acg ctc aac aac	cct gct gct	7749
Gln Gly Val Leu Ser Leu Arg	Phe Thr Leu Asn Asn	Pro Ala Ala	
2570	2575	2580	

gga gag gaa cga ccc aag tct gat atg cca tcg ggt ctg atc ccg Gly Glu Glu Arg Pro Lys Ser Asp Met Pro Ser Gly Leu Ile Pro 2585 2590 2595	7794
gga cac aag cag agc gtg gga ctg ttc ctg gag aga gtg tac ggc Gly His Lys Gln Ser Val Gly Leu Phe Leu Glu Arg Val Tyr Gly 2600 2605 2610	7839
atc gaa act cag gag ttg ttc tac aaa ctg ctg gag gaa gcc ttc Ile Glu Thr Gln Glu Leu Phe Tyr Lys Leu Leu Glu Glu Ala Phe 2615 2620 2625	7884
ctg cct gac ctc agg gct gcc act atg ctg gac agg aac gac ggc Leu Pro Asp Leu Arg Ala Ala Thr Met Leu Asp Arg Asn Asp Gly 2630 2635 2640	7929
tgc gaa tca gac atg gcg ctg tcg atg aac cgc tac atc ggc aac Cys Glu Ser Asp Met Ala Leu Ser Met Asn Arg Tyr Ile Gly Asn 2645 2650 2655	7974
tcg atc ctg ccg ctg ctg atc aaa cac gct tac ttc tac aac gaa Ser Ile Leu Pro Leu Leu Ile Lys His Ala Tyr Phe Tyr Asn Glu 2660 2665 2670	8019
gct gag aac tac gcc agt tta ttg gat gcc acg cta cat act gtt Ala Glu Asn Tyr Ala Ser Leu Leu Asp Ala Thr Leu His Thr Val 2675 2680 2685	8064
tat agg tta tcg aag aac cgc atg tta acc aag ggt caa cgt gaa Tyr Arg Leu Ser Lys Asn Arg Met Leu Thr Lys Gly Gln Arg Glu 2690 2695 2700	8109
gcg gtg tca gac ttc cta gtg gcg ctt act tca gcg atg cag ccc Ala Val Ser Asp Phe Leu Val Ala Leu Thr Ser Ala Met Gln Pro 2705 2710 2715	8154
tct atg ttg ctc aag ctg ctc agg aaa ttg acg gtc gac gtg tct Ser Met Leu Leu Lys Leu Leu Arg Lys Leu Thr Val Asp Val Ser 2720 2725 2730	8199
aaa ctg tcc gag tat act act gtc gct ctt agg ctg ctg acg ctg Lys Leu Ser Glu Tyr Thr Thr Val Ala Leu Arg Leu Leu Thr Leu 2735 2740 2745	8244
cac tac gag cgc tgc gcg aag tac tac ggc agc acg ggc gcg ggg His Tyr Glu Arg Cys Ala Lys Tyr Tyr Gly Ser Thr Gly Ala Gly 2750 2755 2760	8289
cag ggc gcg ttc ggc gcg tcg tcg gac gag gag aag cgc ctc acc Gln Gly Ala Phe Gly Ala Ser Ser Asp Glu Glu Lys Arg Leu Thr 2765 2770 2775	8334
atg atg ctc ttc tcc aac atc ttc gac tcg ctc agc aag atg gac Met Met Leu Phe Ser Asn Ile Phe Asp Ser Leu Ser Lys Met Asp 2780 2785 2790	8379
tac gag ccc gag ctc ttc ggg aag gcg ctg ccc tgt ctt att gct Tyr Glu Pro Glu Leu Phe Gly Lys Ala Leu Pro Cys Leu Ile Ala 2795 2800 2805	8424

ata gga tgc gct ctg cct cct gac tac tct ctc tca aag aac tat	8469
Ile Gly Cys Ala Leu Pro Pro Asp Tyr Ser Leu Ser Lys Asn Tyr	
2810 2815 2820	
gat ggt gag ttt tac ggc aaa gag caa gct gca ggt gac cta gac	8514
Asp Gly Glu Phe Tyr Gly Lys Glu Gln Ala Ala Gly Asp Leu Asp	
2825 2830 2835	
aac ccc caa tac gac cct cag ccc ata aac acg tcc tca gta gca	8559
Asn Pro Gln Tyr Asp Pro Gln Pro Ile Asn Thr Ser Ser Val Ala	
2840 2845 2850	
ttg aac aat gat ctc aac acg atc gta cag aag ttc tcg gaa cat	8604
Leu Asn Asn Asp Leu Asn Thr Ile Val Gln Lys Phe Ser Glu His	
2855 2860 2865	
tac cac gat gcg tgg gct agt agg aag att gag aac ggc tgg gtg	8649
Tyr His Asp Ala Trp Ala Ser Arg Lys Ile Glu Asn Gly Trp Val	
2870 2875 2880	
tat ggg gag ggc tgg tct gat agc cag aag act cat cct agg ctg	8694
Tyr Gly Glu Gly Trp Ser Asp Ser Gln Lys Thr His Pro Arg Leu	
2885 2890 2895	
aag cct tat aat atg ctt aat gat tat gaa aaa gag cgt tac aag	8739
Lys Pro Tyr Asn Met Leu Asn Asp Tyr Glu Lys Glu Arg Tyr Lys	
2900 2905 2910	
gag cca gta cgt gaa tct ctg aag gca ctt cta gcc atc ggt tgg	8784
Glu Pro Val Arg Glu Ser Leu Lys Ala Leu Leu Ala Ile Gly Trp	
2915 2920 2925	
tct gta gaa cat tca gaa gta gac ata ccg agt aac aac cga agc	8829
Ser Val Glu His Ser Glu Val Asp Ile Pro Ser Asn Asn Arg Ser	
2930 2935 2940	
tcc atg aga agg cag tcc aag tcg gga ggc cgc cct ccc gaa att	8874
Ser Met Arg Arg Gln Ser Lys Ser Gly Gly Arg Pro Pro Glu Ile	
2945 2950 2955	
gtg aca gac tcg gcg act ccg ttc aac tac aac cct cac cca gtc	8919
Val Thr Asp Ser Ala Thr Pro Phe Asn Tyr Asn Pro His Pro Val	
2960 2965 2970	
gac atg acc aac ttg acg cta tcg agg gag atg cag aac atg gcg	8964
Asp Met Thr Asn Leu Thr Leu Ser Arg Glu Met Gln Asn Met Ala	
2975 2980 2985	
gag agg ctc gct gac aac gca cac gac atc tgg gcg aag aag aag	9009
Glu Arg Leu Ala Asp Asn Ala His Asp Ile Trp Ala Lys Lys Lys	
2990 2995 3000	
aag gaa gaa ctc gtt act aat gga ggt ggc atc cac ccc caa cta	9054
Lys Glu Glu Leu Val Thr Asn Gly Gly Gly Ile His Pro Gln Leu	
3005 3010 3015	
gta ccc tac gac ctc cta acg gac aaa gaa aag aag aaa gat cga	9099
Val Pro Tyr Asp Leu Leu Thr Asp Lys Glu Lys Lys Lys Asp Arg	
3020 3025 3030	

gaa cgt tct caa gag ttc ctc Glu Arg Ser Gln Glu Phe Leu 3035	aaa tac ctt caa tac Lys Tyr Leu Gln Tyr 3040	caa ggg tac Gln Gly Tyr 3045	9144
aag ctc cac cgg ccc agc aag Lys Leu His Arg Pro Ser Lys 3050	gcg cca caa agt gat Ala Pro Gln Ser Asp 3055	acg gaa caa Thr Glu Gln 3060	9189
acc act acg ggg gta gca ata Thr Thr Thr Gly Val Ala Ile 3065	gag ttg aga ttc gca Glu Leu Arg Phe Ala 3070	tac tcg ctc Tyr Ser Leu 3075	9234
ctc gag aaa ttg atc cag tac Leu Glu Lys Leu Ile Gln Tyr 3080	atc gat agg gcc acc Ile Asp Arg Ala Thr 3085	att aat atg Ile Asn Met 3090	9279
aag ctt ttg aaa cct tcc act Lys Leu Leu Lys Pro Ser Thr 3095	acg ttt agt agg aga Thr Phe Ser Arg Arg 3100	agt agt ttt Ser Ser Phe 3105	9324
aag act agt acc agg gat att Lys Thr Ser Thr Arg Asp Ile 3110	aag ttc ttt tct aag Lys Phe Phe Ser Lys 3115	gtg gtg ctg Val Val Leu 3120	9369
cct cta atg gag aag tat ttc Pro Leu Met Glu Lys Tyr Phe 3125	tcg acg cat cgt aac Ser Thr His Arg Asn 3130	tac ttc ata Tyr Phe Ile 3135	9414
gct gta gct acg gcg acg aat Ala Val Ala Thr Ala Thr Asn 3140	aat gtt ggt gca gcc Asn Val Gly Ala Ala 3145	agc ctg aag Ser Leu Lys 3150	9459
gag aaa gag atg gta gct gct Glu Lys Glu Met Val Ala Ala 3155	ctg ttc tgt aag ctg Leu Phe Cys Lys Leu 3160	gct agc ttg Ala Ser Leu 3165	9504
ctt aga tct aga ctc gca gct Leu Arg Ser Arg Leu Ala Ala 3170	ttc ggt cct gac gtc Phe Gly Pro Asp Val 3175	cgc atc aca Arg Ile Thr 3180	9549
gtc cgc tgt ctc caa gtg ttg Val Arg Cys Leu Gln Val Leu 3185	gtg aag ggc atc gac Val Lys Gly Ile Asp 3190	gcc aag tcc Ala Lys Ser 3195	9594
tta gtg aag aac tgc ccc gag Leu Val Lys Asn Cys Pro Glu 3200	ttc atc agg acc tcc Phe Ile Arg Thr Ser 3205	atg ttg acc Met Leu Thr 3210	9639
ttc ttc aac aat gtc gct gat Phe Phe Asn Asn Val Ala Asp 3215	gat gta ggg cat acg Asp Val Gly His Thr 3220	atc atg aat Ile Met Asn 3225	9684
ttg cag gat ggt aaa tac gca Leu Gln Asp Gly Lys Tyr Ala 3230	cac cta cga ggt acc His Leu Arg Gly Thr 3235	cac ttg aag His Leu Lys 3240	9729
aca tcc acg tct ctc ggc tat Thr Ser Thr Ser Leu Gly Tyr 3245	atc aac gga gta ctg Ile Asn Gly Val Leu 3250	ctc ccc ata Leu Pro Ile 3255	9774

ctg aca gcc aaa ttc gac cat	ctg gct aac tgc gag	tac ggt gct	9819
Leu Thr Ala Lys Phe Asp His	Leu Ala Asn Cys Glu	Tyr Gly Ala	
3260	3265	3270	
gat ccg ttg ttg gac gag ata	caa gtg gcg tca tac	aag atg ttg	9864
Asp Pro Leu Leu Asp Glu Ile	Gln Val Ala Ser Tyr	Lys Met Leu	
3275	3280	3285	
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Gly Ser Leu Tyr Ala Leu Gly	Thr Asp Ala Ser Leu	Thr His Asp	
3290	3295	3300	
aga aag tac ctc aag act gag	att gag aga cat aaa	cct gct ttg	9954
Arg Lys Tyr Leu Lys Thr Glu	Ile Glu Arg His Lys	Pro Ala Leu	
3305	3310	3315	
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Gly Ser Cys Leu Gly Ala Phe	Ser Ser Thr Phe Pro	Val Ala Phe	
3320	3325	3330	
ctg gag cct cac ttg gac aaa	cac aac cag ttc tcc	ttg ctg aac	10044
Leu Glu Pro His Leu Asp Lys	His Asn Gln Phe Ser	Leu Leu Asn	
3335	3340	3345	
agg atc gct gac cat tct ttg	gaa gcc caa gac ata	atg cag aaa	10089
Arg Ile Ala Asp His Ser Leu	Glu Ala Gln Asp Ile	Met Gln Lys	
3350	3355	3360	
atg gaa caa tgc atg ccg acg	tta gag acg atc tta	ggc gag gtg	10134
Met Glu Gln Cys Met Pro Thr	Leu Glu Thr Ile Leu	Gly Glu Val	
3365	3370	3375	
gac caa ttc gtg gag tca gac	aag acg tac aac gaa	gcg ccg cat	10179
Asp Gln Phe Val Glu Ser Asp	Lys Thr Tyr Asn Glu	Ala Pro His	
3380	3385	3390	
atc atc gat gtg gtg ttg cct	tta ctc tgt tct tac	ttg ccg ttc	10224
Ile Ile Asp Val Val Leu Pro	Leu Leu Cys Ser Tyr	Leu Pro Phe	
3395	3400	3405	
tgg tgg gca cag ggg cct gat	aat gtt act cct act	ggc gga aac	10269
Trp Trp Ala Gln Gly Pro Asp	Asn Val Thr Pro Thr	Gly Gly Asn	
3410	3415	3420	
cac gta aca atg gta aca gcg	gaa cac atg aac cag	ctc ctc aag	10314
His Val Thr Met Val Thr Ala	Glu His Met Asn Gln	Leu Leu Lys	
3425	3430	3435	
aat gtt ctg aag ctc atc aaa	aag aac atc ggc aat	gag aac gcg	10359
Asn Val Leu Lys Leu Ile Lys	Lys Asn Ile Gly Asn	Glu Asn Ala	
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ccg tgg atg acc cgc ata gcc	acc tac acc cag cag	atc atc atc	10404
Pro Trp Met Thr Arg Ile Ala	Thr Tyr Thr Gln Gln	Ile Ile Ile	
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aac agc tcc gag gag ttg ctg	agg gat tcc ttc ctg	ccg ctc gct	10449
Asn Ser Ser Glu Glu Leu Leu	Arg Asp Ser Phe Leu	Pro Leu Ala	
3470	3475	3480	

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Glu Arg Val Arg Lys Arg Thr Asp Asn Met Phe His Lys Glu Glu	
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Ser Leu Arg Gly Phe Ile Lys Ser Ser Thr Asp Asp Thr Ser Gln	
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Val Glu Ser Gln Ile Gln Glu Asp Trp Gln Leu Leu Val Arg Asp	
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Ile Tyr Ser Phe Tyr Pro Leu Leu Ile Lys Tyr Val Asp Leu Gln	
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Arg Asn His Trp Leu Arg Asn Asn Val Pro Glu Ala Glu Glu Leu	
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tac aac cac gtg gcc gaa atc ttc aac ata tgg tcg aag agc cag	10719
Tyr Asn His Val Ala Glu Ile Phe Asn Ile Trp Ser Lys Ser Gln	
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Tyr Phe Leu Lys Glu Glu Gln Asn Phe Ile Ser Ala Asn Glu Ile	
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Asp Asn Met Val Leu Ile Met Pro Thr Ala Thr Arg Arg Val Thr	
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Ala Val Thr Asp Gly Thr Pro Gln Gly Gly Gly Lys Lys Lys Lys	
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Lys His Arg Asp Lys Lys Arg Asp Lys Asp Lys Glu Val Gln Ala	
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Ser Leu Met Val Ala Cys Leu Lys Arg Leu Leu Pro Val Gly Leu	
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Ile Asp Pro Ala Asp Glu Met Ser Trp Gln His Tyr Leu Tyr Ser	
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Ala Met Ser Lys Val Leu Phe Gly Leu His Met Ile Asp His Pro	
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Gln Gln Met Ser Lys Asn Val Tyr Arg Ser Val Val Ser Ile Gln	
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Arg Lys Arg Ala Val Ile Ala Cys Phe Arg Gln Thr Ser Leu His	
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Ser Leu Pro Arg His Arg Ala Cys Asn Ile Phe Ala Arg Thr Tyr	
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Tyr Glu Leu Trp Leu Glu Glu Glu Asn Ile Gly Gln Glu Val Met	
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Thr Leu Gln Leu Gly Ile Ser	Ile Leu Arg Gly Gly Asn Ile Asp	
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Leu Asp Leu Asp Ala Phe Glu	Arg Asn Thr Lys Ala Glu Gly Leu	
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Val Ile Gln Gly Pro Cys Thr	Gln Asn Gln Gln Ala Leu Ala His	
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Ser Arg Leu Trp Asp Ala Val	Gly Gly Phe Leu Phe Leu Phe Ser	
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 Phe Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val
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 85 90 95
 Gly Ser Gly His Arg Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg
 100 105 110
 His Leu Asn Ser Asp Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser
 115 120 125
 Gln Asp Lys Leu Ala Phe Asp Val Gly Leu Gln Gln His Ser Gln Gly

130						135						140					
Glu	Ala	Cys	Trp	Trp	Thr	Leu	His	Pro	Ala	Ser	Lys	Gln	Arg	Ser	Glu		
145					150					155					160		
Gly	Glu	Lys	Val	Arg	Val	Gly	Asp	Asp	Leu	Ile	Leu	Val	Ser	Val	Ala		
				165					170					175			
Thr	Glu	Arg	Tyr	Leu	His	Thr	Thr	Lys	Glu	Asn	Glu	Val	Ser	Ile	Val		
			180					185					190				
Asn	Ala	Ser	Phe	His	Val	Thr	His	Trp	Ser	Val	Gln	Pro	Tyr	Gly	Thr		
		195					200					205					
Gly	Ile	Ser	Arg	Met	Lys	Tyr	Val	Gly	Tyr	Val	Phe	Gly	Gly	Asp	Val		
	210					215					220						
Leu	Arg	Phe	Phe	His	Gly	Gly	Asp	Glu	Cys	Leu	Thr	Ile	Pro	Ser	Thr		
225					230					235					240		
Trp	Thr	Lys	Asp	Gly	Gly	Gln	Asn	Ile	Val	Val	Tyr	Glu	Gly	Gly	Ser		
				245					250					255			
Val	Met	Ser	Gln	Ala	Arg	Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr		
			260					265					270				
Lys	Trp	Ala	Gly	Gly	Phe	Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg		
		275					280					285					
His	Ile	Thr	Thr	Gly	Arg	Tyr	Leu	Gly	Val	Asn	Asp	Gln	Asn	Glu	Leu		
	290					295					300						
Tyr	Leu	Val	Ser	Arg	Glu	Glu	Ala	Thr	Thr	Ala	Ser	Cys	Ala	Phe	Cys		
305					310					315					320		
Leu	Arg	Gln	Glu	Lys	Gly	Asp	Gln	Lys	Gln	Val	Leu	Glu	Asp	Lys	Asp		
				325					330					335			
Leu	Glu	Val	Ile	Gly	Ala	Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Ser	Thr	Val		
			340					345					350				
Ile	Val	Gln	His	Ser	Glu	Thr	Gly	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr		
		355					360					365					
Glu	Thr	Lys	Lys	Lys	Gly	Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile		
	370				375						380						
Leu	His	Glu	Glu	Gly	Lys	Met	Asp	Asp	Gly	Leu	Asp	Phe	Ser	Arg	Ser		
385					390					395					400		
Gln	Glu	Glu	Glu	Ser	Arg	Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser		
				405					410					415			
Leu	Phe	Thr	Lys	Phe	Ile	Asn	Gly	Leu	Glu	Thr	Leu	Gln	Glu	Asn	Arg		
			420					425					430				
Arg	His	Ser	Met	Phe	Phe	Ala	Ser	Val	Asn	Leu	Gly	Glu	Met	Val	Met		
		435					440					445					
Cys	Leu	Glu	Asp	Leu	Ile	Asn	Tyr	Phe	Ala	Gln	Pro	Asp	Glu	Asp	Met		

450					455					460					
Glu	His	Glu	Glu	Lys	Gln	Asn	Lys	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln
465					470					475					480
Asp	Leu	Phe	Gln	Glu	Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile
				485					490					495	
Val	Lys	Ile	Asn	Val	Ile	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu
			500					505					510		
Ala	Gly	Asp	Glu	Ser	Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu
		515					520					525			
Tyr	Gln	Leu	Leu	Ala	Ala	Ile	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala
	530					535					540				
Gln	Phe	Ala	Asn	Ser	Asn	Arg	Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly
545					550					555					560
Ser	Gln	Ala	Ser	Gly	Glu	Gly	Thr	Gly	Met	Leu	Asp	Val	Leu	His	Cys
				565					570					575	
Val	Leu	Ile	Asp	Ser	Pro	Glu	Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His
			580					585					590		
Ile	Lys	Val	Ile	Ile	Ser	Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys
		595					600					605			
Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val
	610					615					620				
Arg	Ser	Ser	Gln	Asn	Asn	Ile	Cys	Asp	Tyr	Leu	Leu	Pro	Gly	Lys	Asn
625					630					635					640
Leu	Leu	Leu	Gln	Thr	Ala	Leu	Val	Asp	His	Val	Ser	Ser	Val	Arg	Pro
				645					650					655	
Asn	Ile	Phe	Val	Gly	Arg	Val	Glu	Gly	Ser	Ala	Val	Tyr	Arg	Lys	Trp
			660					665					670		
Tyr	Phe	Glu	Val	Thr	Met	Asp	His	Ile	Glu	Lys	Thr	Thr	His	Met	Met
		675					680					685			
Pro	His	Leu	Arg	Ile	Gly	Trp	Ala	Asn	Thr	Thr	Gly	Tyr	Val	Pro	Tyr
	690					695					700				
Pro	Gly	Gly	Gly	Glu	Lys	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu
705					710					715					720
Tyr	Ser	Tyr	Gly	Phe	Asp	Gly	Ala	Tyr	Leu	Trp	Ser	Gly	Gly	Arg	Lys
				725					730					735	
Thr	Pro	Val	Asn	Arg	Thr	His	Ala	Glu	Glu	Pro	Tyr	Ile	Arg	Lys	Gly
			740					745					750		
Asp	Val	Ile	Gly	Cys	Ala	Leu	Asp	Leu	Thr	Val	Pro	Ile	Ile	Asn	Phe
		755					760					765			
Met	Phe	Asn	Gly	Val	Arg	Val	Thr	Gly	Ser	Phe	Thr	Asn	Phe	Asn	Leu

770	775	780
Glu Gly Met Phe Phe Pro Val Ile Ser Cys Ser Ser Lys Leu Ser Cys 785 790 795 800		
Arg Phe Leu Leu Gly Gly Glu His Gly Arg Leu Arg His Ala Ala Pro 805 810 815		
Glu Gly Tyr Ser Pro Leu Val Glu Ser Leu Leu Pro Gln Gln Ile Leu 820 825 830		
Ser Leu Glu Pro Cys Phe Tyr Phe Gly Asn Leu Ser Lys Arg Ala Leu 835 840 845		
Ala Gly Pro Pro Leu Val Gln Asp Asp Thr Ala Phe Val Pro Thr Pro 850 855 860		
Val Asp Thr Leu Gln Ile Thr Leu Pro Thr Tyr Val Glu Gln Ile Arg 865 870 875 880		
Asp Lys Leu Ala Glu Asn Ile His Glu Met Trp Ala Met Asn Lys Ile 885 890 895		
Glu Ala Gly Trp Met Tyr Gly Asp Gln Arg Glu Asp Leu His Lys Ile 900 905 910		
His Pro Cys Leu Val Pro Phe Glu Arg Leu Pro Pro Ala Glu Lys Arg 915 920 925		
Tyr Asp Ile Gln Leu Ala Val Gln Thr Leu Lys Thr Ile Leu Ala Leu 930 935 940		
Gly Tyr Tyr Ile Ser Leu Asp Lys Pro Pro Ala Arg Ile Arg Asn Val 945 950 955 960		
Arg Leu Pro Asn Glu Pro Phe Met Gln Ser Asn Gly Tyr Lys Pro Ala 965 970 975		
Pro Leu Asp Leu Gly Ala Val Thr Leu Thr Pro Lys Met Asp Glu Leu 980 985 990		
Val Asp Gln Leu Ala Glu Asn Thr His Asn Leu Trp Ala Arg Glu Arg 995 1000 1005		
Ile Gln Gln Gly Trp Thr Tyr Gly Leu Asn Glu Asp Ser Asp Met 1010 1015 1020		
His Arg Ser Pro His Leu Val Pro Tyr Pro Lys Val Asp Asp Ala 1025 1030 1035		
Ile Lys Lys Ala Asn Arg Asp Thr Ala Ser Glu Thr Val Arg Thr 1040 1045 1050		
Leu Leu Val Tyr Gly Tyr Met Leu Asp Pro Pro Thr Gly Glu Gln 1055 1060 1065		
His Glu Ala Leu Leu Leu Glu Ala Ser Lys Gln Lys Gln Ala Asp 1070 1075 1080		
Phe Arg Thr Tyr Arg Ala Glu Lys Asn Tyr Ala Val Ser Ser Gly		

1085					1090					1095				
Lys	Trp	Tyr	Phe	Glu	Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg
1100						1105					1110			
Val	Gly	Trp	Ala	His	Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly
1115						1120					1125			
Gln	Asp	Glu	Asn	Ser	Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys
1130						1135					1140			
Val	Tyr	Ser	Gly	Asn	Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val
1145						1150					1155			
Gly	Asp	Val	Val	Gly	Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile
1160						1165					1170			
Ser	Phe	Ser	Leu	Asn	Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly
1175						1180					1185			
Glu	Thr	Thr	Phe	Ala	Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala
1190						1195					1200			
Cys	Thr	Leu	Gly	Val	Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln
1205						1210					1215			
Asp	Val	Asn	Thr	Leu	Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu
1220						1225					1230			
Gly	Tyr	Glu	Pro	Phe	Cys	Val	Asn	Met	Glu	Arg	Asp	Val	Thr	His
1235						1240					1245			
Trp	Tyr	Thr	Lys	Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met
1250						1255					1260			
Ile	Asp	Thr	Arg	Ile	Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp
1265						1270					1275			
Thr	Pro	Pro	Cys	Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met
1280						1285					1290			
Glu	Lys	Ala	Asn	Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile
1295						1300					1305			
Cys	His	Asn	Glu	Phe	Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp
1310						1315					1320			
Val	Glu	Ile	Lys	Asp	Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val
1325						1330					1335			
Glu	Ala	Gln	Met	Pro	Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly
1340						1345					1350			
Phe	Thr	Met	Asn	Asp	Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln
1355						1360					1365			
Glu	Glu	Leu	Pro	Ser	Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro
1370						1375					1380			
Pro	Arg	Lys	Gly	Ser	Met	Thr	Arg	Gly	Val	Thr	Ile	Gln	Asn	Tyr

1385		1390		1395
Asn Asn Leu Gln Pro Gly Gln Val Asn Gly Met His Arg Ser Thr				
1400		1405		1410
Ser Glu Ala Glu Met Ala Lys Tyr Asp Leu Gly Ala Gln Gly Leu				
1415		1420		1425
Thr Pro Asp Asp Lys Lys Asp Lys Arg Gly Arg Ser Pro Phe Lys				
1430		1435		1440
Phe Phe Arg Ser Lys Arg Gly Glu Ser Ser Asp Arg Ala Lys Ser				
1445		1450		1455
Arg Lys Ser Lys Thr Pro Asp Pro Phe Ser Asp Thr Glu Val Ser				
1460		1465		1470
Pro Glu Arg Gly Ala Arg Arg Pro Asn Pro Gln Ile Lys Val Ser				
1475		1480		1485
Gln Ala Asn Gln Arg Tyr Asn Gly Met Asn Ala Arg Pro Ser Arg				
1490		1495		1500
Thr Asn Leu Tyr Gly Ser Gln Val Gly Leu Asn Ser Asn Ala Gln				
1505		1510		1515
Met Ala Thr Pro Thr Gln Asp Arg Lys Gln Met Thr Thr Ser Thr				
1520		1525		1530
Leu Ala Gln Ser Ala Thr Glu Thr Val Gly Asn Glu Ile Phe Asp				
1535		1540		1545
Ala Glu Cys Leu Lys Leu Ile Asn Glu Tyr Phe Tyr Gly Val Arg				
1550		1555		1560
Ile Tyr Pro Gly Gln Asp Pro Thr His Val Tyr Ile Gly Trp Val				
1565		1570		1575
Thr Thr Gln Tyr His Leu His Ser Lys Asp Phe Asn Gln Ser Lys				
1580		1585		1590
Val Thr Lys Ser Ser Val Ile Ile Thr Asp Asp Tyr Asp Arg Val				
1595		1600		1605
Val Glu Asn Val Asn Arg Gln Ser Cys Tyr Met Val Arg Ala Asp				
1610		1615		1620
Glu Leu Tyr Asn Glu Val Met Ala Glu Ala Thr Ala Lys Gly Ala				
1625		1630		1635
Ser Gln Gly Met Phe Ile Gly Cys Ser Val Asp Thr Ser Thr Gly				
1640		1645		1650
Ser Val Ser Phe Thr Cys Glu Gly Lys Asp Thr Ser Phe Lys Phe				
1655		1660		1665
Lys Met Glu Pro Glu Thr Lys Leu Phe Pro Ala Ile Phe Val Glu				
1670		1675		1680
Ala Thr Ser Lys Glu Ile Leu Gln Ile Glu Leu Gly Arg Ser Ala				

1685					1690					1695				
Thr	Ser	Leu	Pro	Leu	Ser	Ala	Ala	Val	Leu	Pro	Thr	Ser	Asp	Lys
1700						1705					1710			
His	Val	Ile	Pro	Gln	Phe	Pro	Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu
1715						1720					1725			
Lys	Pro	His	Gln	Trp	Ala	Arg	Val	Pro	Asn	Gln	Ser	Leu	Gln	Val
1730						1735					1740			
His	Ala	Leu	Lys	Leu	Ser	Asp	Ile	Arg	Gly	Trp	Ser	Met	Leu	Cys
1745						1750					1755			
Glu	Asp	Ala	Val	Ser	Met	Leu	Ala	Leu	His	Ile	Pro	Glu	Glu	Asp
1760						1765					1770			
Arg	Cys	Met	Asp	Ile	Leu	Glu	Leu	Ile	Glu	Met	Asp	Lys	Leu	Leu
1775						1780					1785			
Ser	Phe	His	Ser	His	Thr	Leu	Thr	Leu	Tyr	Ala	Ala	Leu	Cys	Tyr
1790						1795					1800			
Gln	Ser	Asn	Tyr	Arg	Ala	Ala	His	Ala	Leu	Cys	Thr	His	Val	Asp
1805						1810					1815			
Gln	Lys	Gln	Leu	Leu	Tyr	Ala	Ile	Gln	Ser	Gln	Tyr	Met	Ser	Gly
1820						1825					1830			
Pro	Leu	Arg	Gln	Gly	Phe	Tyr	Asp	Leu	Leu	Ile	Ala	Leu	His	Leu
1835						1840					1845			
Glu	Ser	His	Ala	Thr	Thr	Met	Glu	Ala	Cys	Lys	Asn	Glu	Phe	Val
1850						1855					1860			
Ile	Pro	Leu	Gly	Pro	Glu	Leu	Lys	Ala	Leu	Tyr	Glu	Glu	Pro	Asp
1865						1870					1875			
Met	Gly	His	Ser	Leu	Arg	Ser	Leu	Gln	Thr	Glu	Ser	Val	Arg	Pro
1880						1885					1890			
Gln	Met	Lys	Met	Thr	Asp	Ile	Ala	Glu	Ser	Ile	Thr	Glu	Ile	Ser
1895						1900					1905			
Asn	Leu	Tyr	Ser	Pro	Tyr	Phe	Pro	Leu	Glu	Val	Val	Arg	Glu	Phe
1910						1915					1920			
Val	Met	Gln	Ala	Leu	Ala	Glu	Ala	Val	Glu	Thr	Asn	Gln	Val	His
1925						1930					1935			
Asn	Arg	Asp	Pro	Val	Gly	Gly	Ser	Asn	Glu	Asn	Leu	Phe	Leu	Pro
1940						1945					1950			
Leu	Ile	Lys	Leu	Val	Asp	Arg	Leu	Leu	Leu	Val	Gly	Met	Met	Arg
1955						1960					1965			
Asp	Glu	Asp	Val	Glu	Lys	Leu	Leu	Ile	Met	Thr	Asn	Pro	Glu	Thr
1970						1975					1980			
Trp	Asp	Pro	Ser	Phe	Asp	Lys	Gly	Gly	Lys	Asp	Glu	His	Arg	Lys

1985					1990					1995				
Gly	Leu	Leu	His	Met	Lys	Met	Ala	Glu	Gly	Ala	Lys	Leu	Gln	Met
2000						2005					2010			
Cys	Tyr	Leu	Leu	Gln	His	Leu	Asn	Asp	Ile	Gln	Leu	Arg	His	Arg
2015						2020					2025			
Val	Glu	Ala	Ile	Ile	Ala	Phe	Ala	His	Asp	Phe	Val	Gly	Asp	Leu
2030						2035					2040			
Gln	Thr	Asp	Gln	Leu	Arg	Arg	Tyr	Thr	Glu	Ile	Lys	Gln	Ser	Asp
2045						2050					2055			
Leu	Pro	Ser	Ala	Val	Ala	Ala	Lys	Lys	Thr	Arg	Glu	Phe	Arg	Cys
2060						2065					2070			
Pro	Pro	Arg	Glu	Gln	Met	Asn	Ala	Ile	Leu	Ser	Phe	Lys	His	Leu
2075						2080					2085			
Glu	Glu	Glu	Asp	Lys	Glu	Asn	Cys	Pro	Cys	Gly	Glu	Glu	Leu	Ile
2090						2095					2100			
Ala	Arg	Met	Asn	Glu	Phe	His	Asp	Thr	Leu	Met	Ala	His	Val	Ser
2105						2110					2115			
Leu	His	Ala	Leu	Gln	Glu	Pro	Asp	Ala	Ala	Glu	Asn	Gln	Glu	Pro
2120						2125					2130			
Glu	Ala	Lys	Pro	Gly	Ala	Phe	Gly	Lys	Leu	Tyr	Asn	Ile	Ile	Asn
2135						2140					2145			
Thr	Val	Lys	Glu	Leu	Glu	Glu	Glu	Ala	Lys	Ala	Ile	Glu	Glu	Pro
2150						2155					2160			
Pro	Lys	Lys	Thr	Pro	Glu	Glu	Lys	Phe	Arg	Lys	Val	Leu	Ile	Gln
2165						2170					2175			
Thr	Ile	Val	Asn	Trp	Ala	Glu	Glu	Ser	Gln	Ile	Glu	Thr	Pro	Lys
2180						2185					2190			
Leu	Val	Arg	Glu	Met	Phe	Ser	Leu	Leu	Val	Arg	Gln	Tyr	Asp	Ala
2195						2200					2205			
Val	Gly	Glu	Leu	Ile	Arg	Ala	Leu	Glu	Lys	Thr	Tyr	Val	Ile	Asn
2210						2215					2220			
Ala	Lys	Thr	Lys	Leu	Asp	Val	Ala	Glu	Met	Trp	Val	Gly	Leu	Ser
2225						2230					2235			
Gln	Ile	Arg	Ala	Leu	Leu	Pro	Val	Gln	Met	Ser	Gln	Glu	Glu	Glu
2240						2245					2250			
Glu	Leu	Met	Arg	Lys	Arg	Leu	Trp	Lys	Leu	Val	Asn	Asn	His	Thr
2255						2260					2265			
Phe	Phe	Gln	His	Pro	Asp	Leu	Ile	Arg	Val	Leu	Arg	Val	His	Glu
2270						2275					2280			
Asn	Val	Met	Ala	Val	Met	Met	Asn	Thr	Leu	Gly	Arg	Arg	Ala	Gln

2285	2290	2295
Ala Gln Ser Asp Ala Gln Pro 2300	Ser Ser Gln Pro Val 2305	Ala Glu Asp 2310
Asn Lys Glu Lys Asp Thr Ser 2315	His Glu Met Val Val 2320	Ala Cys Cys 2325
Arg Phe Leu Cys Tyr Phe Cys 2330	Arg Thr Gly Arg Gln 2335	Asn Gln Lys 2340
Ala Met Phe Asp His Phe Asp 2345	Phe Leu Leu Glu Asn 2350	Ser Asn Ile 2355
Leu Leu Ser Arg Pro Ser Leu 2360	Arg Gly Ser Thr Pro 2365	Leu Asp Val 2370
Ala Tyr Ser Ser Leu Met Glu 2375	Asn Thr Glu Leu Ala 2380	Leu Ala Leu 2385
Arg Glu His Tyr Leu Glu Lys 2390	Ile Ala Val Tyr Leu 2395	Ser Arg Cys 2400
Gly Leu Gln Ser Asn Ser Glu 2405	Leu Val Glu Lys Gly 2410	Tyr Pro Asp 2415
Leu Gly Trp Asp Pro Val Glu 2420	Gly Glu Arg Tyr Leu 2425	Asp Phe Leu 2430
Arg Phe Cys Val Trp Val Asn 2435	Gly Glu Ser Val Glu 2440	Glu Asn Ala 2445
Asn Leu Val Ile Arg Leu Leu 2450	Ile Arg Arg Pro Glu 2455	Cys Leu Gly 2460
Pro Ala Leu Arg Gly Glu Gly 2465	Glu Gly Leu Leu Lys 2470	Ala Ile Val 2475
Asp Ala Asn Lys Met Ser Glu 2480	Arg Ile Ala Asp Arg 2485	Arg Lys Leu 2490
Arg Glu Met Glu Gln Glu Gly 2495	Asp Val Asn Phe Ser 2500	His Pro Leu 2505
Pro Glu Ser Asp Glu Asp Glu 2510	Asp Tyr Ile Asp Thr 2515	Gly Ala Ala 2520
Ile Leu Asn Phe Tyr Cys Thr 2525	Leu Val Asp Leu Leu 2530	Gly Arg Cys 2535
Ala Pro Asp Ala Gly Val Ile 2540	Ala Leu Gly Lys Asn 2545	Glu Ser Leu 2550
Arg Ala Arg Ala Ile Leu Arg 2555	Ser Leu Val Pro Leu 2560	Glu Asp Leu 2565
Gln Gly Val Leu Ser Leu Arg 2570	Phe Thr Leu Asn Asn 2575	Pro Ala Ala 2580
Gly Glu Glu Arg Pro Lys Ser	Asp Met Pro Ser Gly	Leu Ile Pro

2585						2590						2595			
Gly His	Lys Gln Ser Val	Gly Leu Phe Leu Glu Arg	Val Tyr Gly												
2600		2605				2610									
Ile Glu	Thr Gln Glu Leu Phe	Tyr Lys Leu Leu Glu	Glu Ala Phe												
2615		2620				2625									
Leu Pro	Asp Leu Arg Ala Ala	Thr Met Leu Asp Arg	Asn Asp Gly												
2630		2635				2640									
Cys Glu	Ser Asp Met Ala Leu	Ser Met Asn Arg Tyr	Ile Gly Asn												
2645		2650				2655									
Ser Ile	Leu Pro Leu Leu Ile	Lys His Ala Tyr Phe	Tyr Asn Glu												
2660		2665				2670									
Ala Glu	Asn Tyr Ala Ser Leu	Leu Asp Ala Thr Leu	His Thr Val												
2675		2680				2685									
Tyr Arg	Leu Ser Lys Asn Arg	Met Leu Thr Lys Gly	Gln Arg Glu												
2690		2695				2700									
Ala Val	Ser Asp Phe Leu Val	Ala Leu Thr Ser Ala	Met Gln Pro												
2705		2710				2715									
Ser Met	Leu Leu Lys Leu Leu	Arg Lys Leu Thr Val	Asp Val Ser												
2720		2725				2730									
Lys Leu	Ser Glu Tyr Thr Thr	Val Ala Leu Arg Leu	Leu Thr Leu												
2735		2740				2745									
His Tyr	Glu Arg Cys Ala Lys	Tyr Tyr Gly Ser Thr	Gly Ala Gly												
2750		2755				2760									
Gln Gly	Ala Phe Gly Ala Ser	Ser Asp Glu Glu Lys	Arg Leu Thr												
2765		2770				2775									
Met Met	Leu Phe Ser Asn Ile	Phe Asp Ser Leu Ser	Lys Met Asp												
2780		2785				2790									
Tyr Glu	Pro Glu Leu Phe Gly	Lys Ala Leu Pro Cys	Leu Ile Ala												
2795		2800				2805									
Ile Gly	Cys Ala Leu Pro Pro	Asp Tyr Ser Leu Ser	Lys Asn Tyr												
2810		2815				2820									
Asp Gly	Glu Phe Tyr Gly Lys	Glu Gln Ala Ala Gly	Asp Leu Asp												
2825		2830				2835									
Asn Pro	Gln Tyr Asp Pro Gln	Pro Ile Asn Thr Ser	Ser Val Ala												
2840		2845				2850									
Leu Asn	Asn Asp Leu Asn Thr	Ile Val Gln Lys Phe	Ser Glu His												
2855		2860				2865									
Tyr His	Asp Ala Trp Ala Ser	Arg Lys Ile Glu Asn	Gly Trp Val												
2870		2875				2880									
Tyr Gly	Glu Gly Trp Ser Asp	Ser Gln Lys Thr His	Pro Arg Leu												

2885					2890					2895				
Lys	Pro	Tyr	Asn	Met	Leu	Asn	Asp	Tyr	Glu	Lys	Glu	Arg	Tyr	Lys
2900						2905					2910			
Glu	Pro	Val	Arg	Glu	Ser	Leu	Lys	Ala	Leu	Leu	Ala	Ile	Gly	Trp
2915						2920					2925			
Ser	Val	Glu	His	Ser	Glu	Val	Asp	Ile	Pro	Ser	Asn	Asn	Arg	Ser
2930						2935					2940			
Ser	Met	Arg	Arg	Gln	Ser	Lys	Ser	Gly	Gly	Arg	Pro	Pro	Glu	Ile
2945						2950					2955			
Val	Thr	Asp	Ser	Ala	Thr	Pro	Phe	Asn	Tyr	Asn	Pro	His	Pro	Val
2960						2965					2970			
Asp	Met	Thr	Asn	Leu	Thr	Leu	Ser	Arg	Glu	Met	Gln	Asn	Met	Ala
2975						2980					2985			
Glu	Arg	Leu	Ala	Asp	Asn	Ala	His	Asp	Ile	Trp	Ala	Lys	Lys	Lys
2990						2995					3000			
Lys	Glu	Glu	Leu	Val	Thr	Asn	Gly	Gly	Gly	Ile	His	Pro	Gln	Leu
3005						3010					3015			
Val	Pro	Tyr	Asp	Leu	Leu	Thr	Asp	Lys	Glu	Lys	Lys	Lys	Asp	Arg
3020						3025					3030			
Glu	Arg	Ser	Gln	Glu	Phe	Leu	Lys	Tyr	Leu	Gln	Tyr	Gln	Gly	Tyr
3035						3040					3045			
Lys	Leu	His	Arg	Pro	Ser	Lys	Ala	Pro	Gln	Ser	Asp	Thr	Glu	Gln
3050						3055					3060			
Thr	Thr	Thr	Gly	Val	Ala	Ile	Glu	Leu	Arg	Phe	Ala	Tyr	Ser	Leu
3065						3070					3075			
Leu	Glu	Lys	Leu	Ile	Gln	Tyr	Ile	Asp	Arg	Ala	Thr	Ile	Asn	Met
3080						3085					3090			
Lys	Leu	Leu	Lys	Pro	Ser	Thr	Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe
3095						3100					3105			
Lys	Thr	Ser	Thr	Arg	Asp	Ile	Lys	Phe	Phe	Ser	Lys	Val	Val	Leu
3110						3115					3120			
Pro	Leu	Met	Glu	Lys	Tyr	Phe	Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile
3125						3130					3135			
Ala	Val	Ala	Thr	Ala	Thr	Asn	Asn	Val	Gly	Ala	Ala	Ser	Leu	Lys
3140						3145					3150			
Glu	Lys	Glu	Met	Val	Ala	Ala	Leu	Phe	Cys	Lys	Leu	Ala	Ser	Leu
3155						3160					3165			
Leu	Arg	Ser	Arg	Leu	Ala	Ala	Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr
3170						3175					3180			
Val	Arg	Cys	Leu	Gln	Val	Leu	Val	Lys	Gly	Ile	Asp	Ala	Lys	Ser

3185						3190						3195			
Leu Val	Lys Asn Cys Pro	Glu Phe Ile Arg Thr	Ser Met Leu Thr												
3200		3205	3210												
Phe Phe	Asn Asn Val Ala	Asp Asp Val Gly His	Thr Ile Met Asn												
3215		3220	3225												
Leu Gln	Asp Gly Lys Tyr	Ala His Leu Arg Gly	Thr His Leu Lys												
3230		3235	3240												
Thr Ser	Thr Ser Leu Gly	Tyr Ile Asn Gly Val	Leu Leu Pro Ile												
3245		3250	3255												
Leu Thr	Ala Lys Phe Asp	His Leu Ala Asn Cys	Glu Tyr Gly Ala												
3260		3265	3270												
Asp Pro	Leu Leu Asp Glu	Ile Gln Val Ala Ser	Tyr Lys Met Leu												
3275		3280	3285												
Gly Ser	Leu Tyr Ala Leu	Gly Thr Asp Ala Ser	Leu Thr His Asp												
3290		3295	3300												
Arg Lys	Tyr Leu Lys Thr	Glu Ile Glu Arg His	Lys Pro Ala Leu												
3305		3310	3315												
Gly Ser	Cys Leu Gly Ala	Phe Ser Ser Thr Phe	Pro Val Ala Phe												
3320		3325	3330												
Leu Glu	Pro His Leu Asp	Lys His Asn Gln Phe	Ser Leu Leu Asn												
3335		3340	3345												
Arg Ile	Ala Asp His Ser	Leu Glu Ala Gln Asp	Ile Met Gln Lys												
3350		3355	3360												
Met Glu	Gln Cys Met Pro	Thr Leu Glu Thr Ile	Leu Gly Glu Val												
3365		3370	3375												
Asp Gln	Phe Val Glu Ser	Asp Lys Thr Tyr Asn	Glu Ala Pro His												
3380		3385	3390												
Ile Ile	Asp Val Val Leu	Pro Leu Leu Cys Ser	Tyr Leu Pro Phe												
3395		3400	3405												
Trp Trp	Ala Gln Gly Pro	Asp Asn Val Thr Pro	Thr Gly Gly Asn												
3410		3415	3420												
His Val	Thr Met Val Thr	Ala Glu His Met Asn	Gln Leu Leu Lys												
3425		3430	3435												
Asn Val	Leu Lys Leu Ile	Lys Lys Asn Ile Gly	Asn Glu Asn Ala												
3440		3445	3450												
Pro Trp	Met Thr Arg Ile	Ala Thr Tyr Thr Gln	Gln Ile Ile Ile												
3455		3460	3465												
Asn Ser	Ser Glu Glu Leu	Leu Arg Asp Ser Phe	Leu Pro Leu Ala												
3470		3475	3480												
Glu Arg	Val Arg Lys Arg	Thr Asp Asn Met Phe	His Lys Glu Glu												

3485		3490		3495
Ser Leu Arg Gly Phe Ile	Lys 3500	Ser Ser Thr Asp	Asp 3510	Thr Ser Gln
Val Glu Ser Gln Ile Gln	Glu 3515	Asp Trp Gln Leu	Leu 3525	Val Arg Asp
Ile Tyr Ser Phe Tyr Pro	Leu 3530	Leu Ile Lys Tyr	Val 3540	Asp Leu Gln
Arg Asn His Trp Leu Arg	Asn 3545	Asn Val Pro Glu	Ala 3555	Glu Glu Leu
Tyr Asn His Val Ala Glu	Ile 3560	Phe Asn Ile Trp	Ser 3570	Lys Ser Gln
Tyr Phe Leu Lys Glu Glu	Gln 3575	Asn Phe Ile Ser	Ala 3585	Asn Glu Ile
Asp Asn Met Val Leu Ile	Met 3590	Pro Thr Ala Thr	Arg 3600	Arg Val Thr
Ala Val Thr Asp Gly Thr	Pro 3605	Gln Gly Gly Gly	Lys 3615	Lys Lys Lys
Lys His Arg Asp Lys Lys	Arg 3620	Asp Lys Asp Lys	Glu 3630	Val Gln Ala
Ser Leu Met Val Ala Cys	Leu 3635	Lys Arg Leu Leu	Pro 3645	Val Gly Leu
Asn Leu Phe Ala Gly Arg	Glu 3650	Gln Glu Leu Val	Gln 3660	His Cys Lys
Asp Arg Phe Leu Lys Val	Gly 3665	Thr Leu Lys Lys	Met 3675	Ser Glu Gln
Asp Val Ala Glu Phe Ala	Lys 3680	Thr Gln Leu Thr	Leu 3690	Pro Asp Lys
Ile Asp Pro Ala Asp Glu	Met 3695	Ser Trp Gln His	Tyr 3705	Leu Tyr Ser
Lys Leu Gly Ser Lys Ser	Lys 3710	Ser Asn Ile Thr	Val 3720	Glu Thr Ala
Glu Asn Lys Ala Lys Ile	Ile 3725	Asp Asp Thr Val	Glu 3735	Arg Ile Val
Ala Met Ser Lys Val Leu	Phe 3740	Gly Leu His Met	Ile 3750	Asp His Pro
Gln Gln Met Ser Lys Asn	Val 3755	Tyr Arg Ser Val	Val 3765	Ser Ile Gln
Arg Lys Arg Ala Val Ile	Ala 3770	Cys Phe Arg Gln	Thr 3780	Ser Leu His
Ser Leu Pro Arg His Arg	Ala	Cys Asn Ile Phe	Ala	Arg Thr Tyr

3785		3790		3795
Tyr Glu Leu Trp Leu Glu Glu Glu Asn Ile Gly Gln Glu Val Met				
3800		3805		3810
Ile Glu Asp Leu Thr Gln Ser Phe Glu Asp Ala Glu Leu Lys Lys				
3815		3820		3825
Ser Asp Val Val Glu Glu Gly Glu Lys Pro Asp Pro Leu Thr Gln				
3830		3835		3840
Leu Val Thr Thr Phe Cys Arg Gly Ala Met Thr Glu Arg Ser Gly				
3845		3850		3855
Ala Leu Gln Glu Asp Pro Leu Tyr Met Ser Tyr Ala His Ile Ile				
3860		3865		3870
Ala Lys Ser Cys Gly Glu Glu Glu Glu Glu Gly Gly Gly Glu Glu				
3875		3880		3885
Glu Glu Gly Gly Gly Glu Ala Glu Ala Glu Asp Glu Gly Arg Ala				
3890		3895		3900
Ser Ile His Glu Gln Glu Met Glu Lys Gln Lys Leu Leu Phe His				
3905		3910		3915
Gln Ala Arg Leu Ala Asp Arg Gly Val Ala Glu Met Val Leu Leu				
3920		3925		3930
His Ile Ser Ala Ser Lys Gly Leu Pro Ser Glu Met Val Met Lys				
3935		3940		3945
Thr Leu Gln Leu Gly Ile Ser Ile Leu Arg Gly Gly Asn Ile Asp				
3950		3955		3960
Ile Gln Met Gly Met Leu Asn His Leu Lys Asp Lys Lys Asp Val				
3965		3970		3975
Gly Phe Phe Thr Ser Ile Ala Gly Leu Met Asn Ser Cys Ser Val				
3980		3985		3990
Leu Asp Leu Asp Ala Phe Glu Arg Asn Thr Lys Ala Glu Gly Leu				
3995		4000		4005
Gly Val Gly Leu Glu Gly Ala Ala Gly Glu Lys Asn Met His Asp				
4010		4015		4020
Ala Glu Phe Thr Cys Ala Leu Phe Arg Phe Ile Gln Leu Thr Cys				
4025		4030		4035
Glu Gly His Asn Leu Asp Trp Gln Asn Tyr Leu Arg Thr Gln Ala				
4040		4045		4050
Gly Asn Thr Ala Ala Val Asn Val Val Ile Cys Thr Val Asp Tyr				
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Leu Leu Arg Leu Gln Glu Ser Ile Met Asp Phe Tyr Trp His Tyr				
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Ser Ser Lys Glu Leu Ile Asp Pro Ala Gly Lys Ala Asn Phe Phe				

4085					4090					4095				
Lys	Ala	Ile	Gly	Val	Ala	Ser	Gln	Val	Phe	Asn	Thr	Leu	Thr	Glu
4100					4105					4110				
Val	Ile	Gln	Gly	Pro	Cys	Thr	Gln	Asn	Gln	Gln	Ala	Leu	Ala	His
4115					4120					4125				
Ser	Arg	Leu	Trp	Asp	Ala	Val	Gly	Gly	Phe	Leu	Phe	Leu	Phe	Ser
4130					4135					4140				
His	Met	Gln	Asp	Lys	Leu	Ser	Lys	His	Ser	Ser	Gln	Val	Asp	Leu
4145					4150					4155				
Leu	Lys	Glu	Leu	Leu	Asn	Leu	Gln	Lys	Asp	Met	Ile	Thr	Met	Met
4160					4165					4170				
Leu	Ser	Met	Leu	Glu	Gly	Asn	Val	Val	Asn	Gly	Thr	Ile	Gly	Lys
4175					4180					4185				
Gln	Met	Val	Asp	Thr	Leu	Val	Glu	Ser	Ala	Ser	Asn	Val	Glu	Leu
4190					4195					4200				
Ile	Leu	Lys	Tyr	Phe	Asp	Met	Phe	Leu	Lys	Leu	Lys	Asp	Leu	Thr
4205					4210					4215				
Ser	Ser	Ala	Ser	Phe	Gln	Glu	Ile	Asp	Ala	Asn	Asn	Asp	Gly	Trp
4220					4225					4230				
Val	Leu	Pro	Lys	Asp	Phe	Lys	Glu	Lys	Met	Glu	Gln	Gln	Lys	Ser
4235					4240					4245				
Tyr	Thr	Pro	Glu	Glu	Ile	Glu	Phe	Leu	Leu	Ala	Cys	Cys	Glu	Thr
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Asn	His	Asp	Gly	Lys	Leu	Asp	Tyr	Ile	Gly	Phe	Cys	Asp	Arg	Phe
4265					4270					4275				
His	Glu	Pro	Ala	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala	Val	Leu	Leu
4280					4285					4290				
Thr	Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg	Leu	Ala	Arg
4295					4300					4305				
Phe	Leu	Glu	Thr	Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe	Glu	Pro	Phe
4310					4315					4320				
Leu	Gly	Arg	Ile	Glu	Ile	Met	Gly	Gly	Ser	Lys	Arg	Ile	Glu	Arg
4325					4330					4335				
Val	Tyr	Phe	Glu	Ile	Lys	Glu	Ser	Asn	Ile	Glu	Gln	Trp	Glu	Lys
4340					4345					4350				
Pro	Gln	Ile	Lys	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr	Ser	Ile	Val
4355					4360					4365				
Thr	Glu	Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe	Val	Asn	Phe
4370					4375					4380				
Cys	Glu	Asp	Ala	Ile	Phe	Glu	Met	Thr	His	Ala	Ser	Gly	Leu	Met

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Ala Ala Ser Glu Glu Ser Val Gly Gly Thr Lys Asn Arg Glu Ala				
4400		4405		4410
Ser Tyr Met Tyr Met Gly Asp Asp Asp Asp Glu Arg Ala Gly Lys				
4415		4420		4425
Asp Pro Phe Arg Arg Gly Leu Gln Ser Val Lys Asp Gly Val Ala				
4430		4435		4440
Thr Ala Phe Ser Ser Leu Ser Pro Ser Asn Ile Lys Ala Lys Ile				
4445		4450		4455
Ala Asp Met Gln Gln Met Pro Pro Ala Glu Leu Ala Val Gly Phe				
4460		4465		4470
Phe Lys Met Phe Phe Tyr Leu Phe Tyr Tyr Leu Gly Tyr Gly Val				
4475		4480		4485
Leu Val Val Val Arg Tyr Ile Phe Gly Val Leu Leu Gly Leu Met				
4490		4495		4500
Arg Gly Pro Gln Thr Asp Glu Pro Pro Pro Glu Pro Thr Glu Glu				
4505		4510		4515
Glu Lys Ile Gly Gln Leu Arg His Arg Leu Leu Ala Thr Gln Ser				
4520		4525		4530
Ser Arg His Leu Pro Ala Leu Pro Pro Ala Asp Asp Thr Gly Gln				
4535		4540		4545
Met Gln Val Ser Ala Phe Gly Leu Asp Ile Thr Lys Glu Gly Asn				
4550		4555		4560
Gly Gln Ile Gln Val Lys Pro His Glu Ser Pro Ser Thr Ser Thr				
4565		4570		4575
Pro Ser Ser Gly Glu Glu Ala Glu Val Ser Pro Asp Glu Ser Ala				
4580		4585		4590
Asp His Thr Glu Glu Gln Arg Pro Pro Ser Leu Ile Asp Leu Leu				
4595		4600		4605
Gly Gly Glu Gln Ala Lys Lys Gln Ala Gln Glu Arg Met Glu Ala				
4610		4615		4620
Gln Ala Ala Gln Gln Ala Ala Met Ser Ala Ile Glu Ala Glu Ser				
4625		4630		4635
Lys Lys Ala Val Gln Gly Pro Ala Pro Ser Ala Leu Ser Gln Val				
4640		4645		4650
Asp Leu Ser Gln Tyr Thr Arg Arg Val Val Ser Phe Leu Ala Arg				
4655		4660		4665
Asn Phe Tyr Asn Leu Lys Tyr Val Ala Leu Val Leu Ala Phe Cys				
4670		4675		4680
Ile Asn Phe Val Leu Leu Phe Tyr Lys Val Ser Thr Leu Asp Gly				

4685	4690	4695
Glu Gly 4700	Gly Glu Gly Ser Gly 4705	Leu Gly Asp Ile Ile 4710
Gly Ser 4715	Gly Ser Gly Ala Gly 4720	Asp Gly Ser Gly 4725
Glu Ser 4730	Gly Glu Asp Asp Asp 4735	Ala Leu Glu Val Val 4740
Glu Asp 4745	Phe Phe Tyr Met Glu 4750	His Val Ile Lys Met 4755
Leu His 4760	Ser Ile Val Ser Ser 4765	Ala Ile Leu Ile Gly 4770
Leu Lys 4775	Val Pro Leu Ala Ile 4780	Phe Lys Arg Glu Lys 4785
Arg Lys 4790	Leu Glu Phe Asp Gly 4795	Leu Tyr Ile Ala Glu 4800
Asp Asp 4805	Asp Leu Lys Ser His 4810	Trp Asp Lys Leu Val 4815
Lys Ser 4820	Phe Pro Val Asn Tyr 4825	Trp Asp Lys Phe Val 4830
Val Arg 4835	Ala Lys Tyr Ser Glu 4840	Thr Tyr Asp Phe Asp 4845
Asn Met 4850	Leu Gly Met Glu Lys 4855	Thr Ser Phe Ser Ala 4860
Glu Gly 4865	Ser Lys Gly Leu Ile 4870	His Tyr Ile Ile Asn 4875
Arg Tyr 4880	Gln Val Trp Lys Ala 4885	Gly Val Thr Ile Thr 4890
Phe Leu 4895	Tyr Ser Leu Trp Tyr 4900	Phe Ser Phe Ser Val 4905
Phe Asn 4910	Asn Phe Phe Phe Ala 4915	Ala His Leu Leu Asp 4920
Gly Phe 4925	Lys Thr Leu Arg Thr 4930	Ile Leu Gln Ser Val 4935
Gly Lys 4940	Gln Leu Val Leu Thr 4945	Val Met Leu Leu Thr 4950
Tyr Ile 4955	Tyr Thr Val Ile Ala 4960	Phe Asn Phe Phe Arg 4965
Val Gln 4970	Glu Glu Asp Asp Glu 4975	Val Asn Arg Asn Cys 4980
Leu Thr	Cys Phe Val Phe Asn	Leu Tyr Lys Gly Val
		Arg Ala Gly

4985	4990	4995
Gly Gly Ile Gly Asp Glu Leu Glu Pro Pro Asp Gly Asp Asp Ser 5000 5005 5010		
Glu Val Tyr Arg Ile Ile Phe Asp Ile Ser Leu Phe Phe Phe Ile 5015 5020 5025		
Ile Val Ile Leu Leu Ala Ile Leu Gln Gly Leu Ile Ile Asp Ala 5030 5035 5040		
Phe Gly Glu Leu Arg Asp Gln Leu Glu Ser Val Lys Glu Asp Met 5045 5050 5055		
Glu Ser Asn Cys Phe Ile Cys Gly Ile Asn Lys Asp Tyr Phe Asp 5060 5065 5070		
Lys Val Pro His Gly Phe Asp Thr His Val Gln Arg Glu His Asn 5075 5080 5085		
Leu Ala Asn Tyr Met Phe Phe Leu Met His Leu Ile Asn Lys Pro 5090 5095 5100		
Asp Thr Glu Tyr Thr Gly Gln Glu Thr Tyr Val Trp Asn Met Tyr 5105 5110 5115		
Thr Gln Arg Cys Trp Asp Phe Phe Pro Val Gly Asp Cys Phe Arg 5120 5125 5130		
Lys Gln Tyr Glu Asp Leu Met Gly Glu 5135 5140		

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agg gtg tgc ctg gct gcc gaa ggt ttc ggc aac cgg cac tgc ttc ctg Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu 35 40 45	144
gag aat att gcc gac aag aac ata ccg cct gat ctg tcg cag tgt gtg	192

Glu	Asn	Ile	Ala	Asp	Lys	Asn	Ile	Pro	Pro	Asp	Leu	Ser	Gln	Cys	Val	
50						55					60					
ttt	gtc	atc	gaa	cag	gcg	ctt	tca	gta	aga	gct	tta	caa	gag	ttg	gta	240
Phe	Val	Ile	Glu	Gln	Ala	Leu	Ser	Val	Arg	Ala	Leu	Gln	Glu	Leu	Val	
65					70					75					80	
acg	gct	gcg	ggg	tct	gaa	act	ggg	aaa	gaa	aac	tta	ggg	aaa	ggg	acc	288
Thr	Ala	Ala	Gly	Ser	Glu	Thr	Gly	Lys	Glu	Asn	Leu	Gly	Lys	Gly	Thr	
				85					90					95		
ggg	tct	ggg	cat	cgt	acg	cta	tta	tac	ggc	aat	gct	att	ctt	ttg	cga	336
Gly	Ser	Gly	His	Arg	Thr	Leu	Leu	Tyr	Gly	Asn	Ala	Ile	Leu	Leu	Arg	
			100					105					110			
cat	ctt	aac	agt	gat	atg	tac	ctg	gcc	tgc	ctg	tcg	aca	tca	tca	tcc	384
His	Leu	Asn	Ser	Asp	Met	Tyr	Leu	Ala	Cys	Leu	Ser	Thr	Ser	Ser	Ser	
		115					120					125				
caa	gat	aag	ctg	gcc	ttt	gac	gtg	ggg	ctg	caa	cag	cac	tcc	cag	ggg	432
Gln	Asp	Lys	Leu	Ala	Phe	Asp	Val	Gly	Leu	Gln	Gln	His	Ser	Gln	Gly	
	130					135					140					
gaa	gcc	tgc	tgg	tgg	acc	ctg	cat	cct	gcc	agc	aaa	cag	aga	tcc	gag	480
Glu	Ala	Cys	Trp	Trp	Thr	Leu	His	Pro	Ala	Ser	Lys	Gln	Arg	Ser	Glu	
145					150					155					160	
ggg	gag	aag	gtg	cga	gtc	gga	gat	gac	ttg	att	ctt	gtc	tcc	gtg	gcc	528
Gly	Glu	Lys	Val	Arg	Val	Gly	Asp	Asp	Leu	Ile	Leu	Val	Ser	Val	Ala	
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act	gag	aga	tac	ttg	cac	aca	acg	aaa	gag	aac	gaa	gta	tcg	ata	gtg	576
Thr	Glu	Arg	Tyr	Leu	His	Thr	Thr	Lys	Glu	Asn	Glu	Val	Ser	Ile	Val	
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aac	gcg	tcg	ttc	cac	gtg	acc	cac	tgg	tcg	gta	cag	ccc	tat	ggc	act	624
Asn	Ala	Ser	Phe	His	Val	Thr	His	Trp	Ser	Val	Gln	Pro	Tyr	Gly	Thr	
		195					200					205				
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Gly	Ile	Ser	Arg	Met	Lys	Tyr	Val	Gly	Tyr	Val	Phe	Gly	Gly	Asp	Val	
	210					215					220					
ctg	agg	ttc	ttc	cat	gga	ggg	gac	gag	tgt	ctc	act	ata	cct	agt	acc	720
Leu	Arg	Phe	Phe	His	Gly	Gly	Asp	Glu	Cys	Leu	Thr	Ile	Pro	Ser	Thr	
225					230					235					240	
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Trp	Thr	Lys	Asp	Gly	Gly	Gln	Asn	Ile	Val	Val	Tyr	Glu	Gly	Gly	Ser	
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gtg	atg	tct	caa	gcc	cgt	tct	ctt	tgg	cgc	ctg	gag	ctg	gct	aga	acc	816
Val	Met	Ser	Gln	Ala	Arg	Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	
			260					265					270			
aag	tgg	gcc	gga	ggg	ttc	att	aac	tgg	tac	cat	cct	atg	agg	att	cgg	864
Lys	Trp	Ala	Gly	Gly	Phe	Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	
		275					280					285				
cac	atc	act	act	gga	aga	tat	ctt	gga	gtt	aac	gac	cag	aat	gaa	ctg	912

His	Ile	Thr	Thr	Gly	Arg	Tyr	Leu	Gly	Val	Asn	Asp	Gln	Asn	Glu	Leu	
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tat	tta	gtt	agc	aga	gag	gaa	gcc	aca	aca	gct	tct	tgt	gcc	ttc	tgc	960
Tyr	Leu	Val	Ser	Arg	Glu	Glu	Ala	Thr	Thr	Ala	Ser	Cys	Ala	Phe	Cys	
305					310					315					320	
ctg	cgt	cag	gag	aag	gat	gat	cag	aag	caa	gtg	tta	gaa	gac	aag	gac	1008
Leu	Arg	Gln	Glu	Lys	Asp	Asp	Gln	Lys	Gln	Val	Leu	Glu	Asp	Lys	Asp	
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Leu	Glu	Val	Ile	Gly	Ala	Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Ser	Thr	Val	
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Ile	Val	Gln	His	Ser	Glu	Thr	Gly	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	
		355					360					365				
gaa	acg	aag	aag	aag	gga	gtg	ggg	aaa	gta	gaa	gag	aag	caa	gcg	att	1152
Glu	Thr	Lys	Lys	Lys	Gly	Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	
	370					375				380						
ctc	cac	gag	gaa	ggc	aag	atg	gac	gat	ggc	ctc	gac	ttc	tcc	agg	tca	1200
Leu	His	Glu	Glu	Gly	Lys	Met	Asp	Asp	Gly	Leu	Asp	Phe	Ser	Arg	Ser	
385					390					395					400	
cag	gag	gaa	gaa	tct	agg	act	gct	cga	gtt	atc	agg	aag	tgt	tct	tcg	1248
Gln	Glu	Glu	Glu	Ser	Arg	Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	
				405					410					415		
ctg	ttc	act	aag	ttt	atc	aat	ggg	ctt	gaa	act	cta	caa	gag	aac	cgt	1296
Leu	Phe	Thr	Lys	Phe	Ile	Asn	Gly	Leu	Glu	Thr	Leu	Gln	Glu	Asn	Arg	
			420					425					430			
cgt	cac	tcg	atg	ttc	ttc	gcg	tca	gtg	aac	ctg	ggg	gag	atg	gtg	atg	1344
Arg	His	Ser	Met	Phe	Phe	Ala	Ser	Val	Asn	Leu	Gly	Glu	Met	Val	Met	
		435					440					445				
tgc	ctc	gag	gat	ctc	atc	aac	tac	ttc	gca	cag	cca	gat	gaa	gat	atg	1392
Cys	Leu	Glu	Asp	Leu	Ile	Asn	Tyr	Phe	Ala	Gln	Pro	Asp	Glu	Asp	Met	
	450					455					460					
gaa	cac	gaa	gaa	aag	caa	aac	aaa	ttc	cgc	gcc	ctc	cgc	aac	cgt	cag	1440
Glu	His	Glu	Glu	Lys	Gln	Asn	Lys	Phe	Arg	Ala	Leu	Arg	Asn	Arg	Gln	
465					470					475					480	
gac	ctg	ttc	caa	gag	gaa	ggc	ata	ctg	aac	ctg	atc	ctc	gaa	gct	ata	1488
Asp	Leu	Phe	Gln	Glu	Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	
				485					490					495		
gac	aag	atc	aac	gtc	atc	aca	tcc	cag	ggg	ttc	ctc	gct	ggg	ttc	ctg	1536
Asp	Lys	Ile	Asn	Val	Ile	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu	
			500					505					510			
gca	gga	gac	gaa	tct	gga	caa	agc	tgg	gaa	atg	ata	tct	gga	tat	ttg	1584
Ala	Gly	Asp	Glu	Ser	Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu	
		515					520					525				
tat	cag	ttg	ctg	gcg	gca	ata	ata	aaa	ggc	aac	cac	acg	aac	tgc	gcg	1632

Tyr	Gln	Leu	Leu	Ala	Ala	Ile	Ile	Lys	Gly	Asn	His	Thr	Asn	Cys	Ala		
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cag	ttc	gcg	aac	tcg	aac	cgg	ctc	aac	tgg	ctg	ttc	tcg	cgc	ctc	ggc	1680	
Gln	Phe	Ala	Asn	Ser	Asn	Arg	Leu	Asn	Trp	Leu	Phe	Ser	Arg	Leu	Gly		
545					550					555					560		
tcg	cag	gcc	tcg	ggc	gag	ggc	acc	ggc	atg	ctc	gac	gtg	ctg	cac	tgc	1728	
Ser	Gln	Ala	Ser	Gly	Glu	Gly	Thr	Gly	Met	Leu	Asp	Val	Leu	His	Cys		
				565					570						575		
gtc	ctc	ata	gac	tcg	cct	gaa	gcg	ctc	aat	atg	atg	cgg	gac	gaa	cac	1776	
Val	Leu	Ile	Asp	Ser	Pro	Glu	Ala	Leu	Asn	Met	Met	Arg	Asp	Glu	His		
			580					585					590				
ata	aaa	gtg	ata	att	tct	cta	tta	gaa	aag	cat	ggg	cgc	gac	cca	aaa	1824	
Ile	Lys	Val	Ile	Ile	Ser	Leu	Leu	Glu	Lys	His	Gly	Arg	Asp	Pro	Lys		
		595					600					605					
gta	cta	gat	gtg	cta	tgt	tca	ctc	tgc	gtc	ggg	aac	ggc	gtc	gcg	gtg	1872	
Val	Leu	Asp	Val	Leu	Cys	Ser	Leu	Cys	Val	Gly	Asn	Gly	Val	Ala	Val		
	610					615					620						
cgc	tcg	tca	cag	aac	aac	atc	tgc	gac	tac	ttg	ctg	ccc	ggc	aag	aac	1920	
Arg	Ser	Ser	Gln	Asn	Asn	Ile	Cys	Asp	Tyr	Leu	Leu	Pro	Gly	Lys	Asn		
625					630					635					640		
ctg	ttg	ctg	caa	act	gcg	ctt	gta	gat	cac	gta	tct	agt	gtc	cgt	ccg	1968	
Leu	Leu	Leu	Gln	Thr	Ala	Leu	Val	Asp	His	Val	Ser	Ser	Val	Arg	Pro		
				645					650					655			
aac	atc	ttc	gtg	ggg	cga	gta	gaa	ggg	tca	gcc	gtg	tac	cgc	aaa	tgg	2016	
Asn	Ile	Phe	Val	Gly	Arg	Val	Glu	Gly	Ser	Ala	Val	Tyr	Arg	Lys	Trp		
			660					665					670				
tac	ttc	gaa	gtg	act	atg	gac	cac	ata	gag	aag	acc	aca	cat	atg	atg	2064	
Tyr	Phe	Glu	Val	Thr	Met	Asp	His	Ile	Glu	Lys	Thr	Thr	His	Met	Met		
		675					680					685					
cca	cat	cta	cgc	ata	gga	tgg	gct	aac	act	act	ggc	tac	gtc	cca	tac	2112	
Pro	His	Leu	Arg	Ile	Gly	Trp	Ala	Asn	Thr	Thr	Gly	Tyr	Val	Pro	Tyr		
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ccg	ggc	ggg	ggc	gag	aag	tgg	gga	ggg	aac	ggc	gtg	gga	gac	gac	ctg	2160	
Pro	Gly	Gly	Gly	Glu	Lys	Trp	Gly	Gly	Asn	Gly	Val	Gly	Asp	Asp	Leu		
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Tyr	Ser	Tyr	Gly	Leu	Asp	Gly	Ala	Tyr	Leu	Trp	Ser	Gly	Gly	Arg	Lys		
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Thr	Pro	Val	Asn	Arg	Thr	His	Ala	Glu	Glu	Pro	Tyr	Ile	Arg	Lys	Gly		
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Asp	Val	Ile	Gly	Cys	Ala	Leu	Asp	Leu	Thr	Val	Pro	Ile	Ile	Asn	Phe		
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Glu	Gly	Met	Phe	Phe	Pro	Val	Ile	Ser	Cys	Ser	Ser	Lys	Leu	Ser	Cys	
785					790				795						800	
cgg	ttc	ctg	cta	ggc	ggg	gaa	cac	ggg	aga	ctc	cgg	tac	gcg	gct	cca	2448
Arg	Phe	Leu	Leu	Gly	Gly	Glu	His	Gly	Arg	Leu	Arg	Tyr	Ala	Ala	Pro	
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gaa	ggc	tac	tcc	cca	ctg	gtg	gag	tct	ctc	ctg	ccg	cag	cag	atc	ctc	2496
Glu	Gly	Tyr	Ser	Pro	Leu	Val	Glu	Ser	Leu	Leu	Pro	Gln	Gln	Ile	Leu	
			820					825							830	
agc	ctg	gag	ccg	tgc	ttc	tac	ttc	ggc	aac	ctg	tcc	aag	cgg	gcc	ctg	2544
Ser	Leu		Pro	Cys	Phe	Tyr	Phe	Gly	Asn	Leu	Ser	Lys	Arg	Ala	Leu	
	835						840					845				
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Ala	Gly	Pro	Pro	Leu	Val	Gln	Asp	Asp	Thr	Ala	Phe	Val	Pro	Thr	Pro	
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Val	Asp	Thr	Leu	Gln	Ile	Thr	Leu	Pro	Thr	Tyr	Val	Glu	Gln	Ile	Arg	
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gat	aag	cta	gct	gaa	aat	ata	cac	gaa	atg	tgg	gct	atg	aat	aag	atc	2688
Asp	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	Met	Trp	Ala	Met	Asn	Lys	Ile	
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cac	ccc	tgc	ctc	gtg	ccc	ttc	gag	cgt	ctc	ccg	cct	gct	gag	aaa	cga	2784
His	Pro	Cys	Leu	Val	Pro	Phe	Glu	Arg	Leu	Pro	Pro	Ala	Glu	Lys	Arg	
		915					920					925				
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Tyr	Asp	Ile	Gln	Leu	Ala	Val	Gln	Thr	Leu	Lys	Thr	Ile	Leu	Ala	Leu	
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Gly	Tyr	Tyr	Ile	Ser	Leu	Asp	Lys	Pro	Pro	Ala	Arg	Ile	Arg	Asn	Val	
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cgt	ctg	ccc	aac	gaa	cct	ttc	atg	cag	tcc	aac	ggc	tac	aag	cca	gca	2928
Arg	Leu	Pro	Asn	Glu	Pro	Phe	Met	Gln	Ser	Asn	Gly	Tyr	Lys	Pro	Ala	
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cca	ctc	gat	ctg	agt	gct	gtc	acc	ctg	aca	ccc	aag	atg	gat	gag	cta	2976
Pro	Leu	Asp	Leu	Ser	Ala	Val	Thr	Leu	Thr	Pro	Lys	Met	Asp	Glu	Leu	
			980					985							990	
gta	gac	cag	ctg	gct	gag	aac	aca	cac	aac	ctt	tgg	gcc	agg	gag	agg	3024
Val	Asp	Gln	Leu	Ala	Glu	Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	
	995						1000					1005				
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Ile	Gln	Gln	Gly	Trp	Thr	Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Asp	Met	
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His	Arg	Ser	Pro	His	Leu	Val	Pro	Tyr	Pro	Lys	Val	Asp	Asp	Ala	
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Ile	Lys	Lys	Ala	Asn	Arg	Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr	
	1040					1045					1050				
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Leu	Leu	Val	Tyr	Gly	Tyr	Met	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gln	
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	1070					1075					1080				
ttc	aga	aca	tac	cgc	gct	gaa	aag	aac	tat	gcc	gtc	agc	tct	ggg	3294
Phe	Arg	Thr	Tyr	Arg	Ala	Glu	Lys	Asn	Tyr	Ala	Val	Ser	Ser	Gly	
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Lys	Trp	Tyr	Phe	Glu	Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg	
	1100					1105					1110				
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Val	Gly	Trp	Ala	His	Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly	
	1115					1120					1125				
caa	gat	gag	aac	tct	tgg	gca	ttt	gat	ggg	tac	aat	gag	gaa	aaa	3429
Gln	Asp	Glu	Asn	Ser	Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys	
	1130					1135					1140				
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Val	Tyr	Ser	Gly	Asn	Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val	
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Gly	Asp	Val	Val	Gly	Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile	
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Ser	Phe	Ser	Leu	Asn	Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly	
	1175					1180					1185				
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Glu	Thr	Thr	Phe	Ala	Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala	
	1190					1195					1200				
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Cys	Thr	Leu	Gly	Val	Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln	
	1205					1210					1215				
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Asp	Val	Asn	Thr	Leu	Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu	
	1220					1225					1230				
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Gly	Tyr	Glu	Pro	Phe	Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His	
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Trp	Tyr	Thr	Lys	Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met	
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Ile	Asp	Thr	Arg	Ile	Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp	
1265						1270					1275				
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Thr	Pro	Pro	Cys	Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met	
1280						1285					1290				
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Glu	Lys	Ala	Asn	Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile	
1295						1300					1305				
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Cys	His	Asn	Glu	Phe	Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp	
1310						1315					1320				
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Val	Glu	Ile	Lys	Asp	Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val	
1325						1330					1335				
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Glu	Ala	Gln	Met	Pro	Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly	
1340						1345					1350				
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Phe	Thr	Met	Asn	Asp	Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln	
1355						1360					1365				
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Glu	Glu	Leu	Pro	Ser	Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro	
1370						1375					1380				
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Pro	Arg	Lys	Gly	Ser	Met	Thr	Arg	Gly	Gln	Val	Asn	Gly	Met	His	
1385						1390					1395				
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Arg	Ser	Thr	Ser	Glu	Ala	Glu	Met	Ala	Lys	Tyr	Asp	Leu	Gly	Ala	
1400						1405					1410				
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Gln	Gly	Leu	Thr	Pro	Asp	Asp	Lys	Lys	Asp	Lys	Arg	Gly	Arg	Ser	
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Pro	Phe	Lys	Phe	Phe	Arg	Ser	Lys	Arg	Gly	Glu	Ser	Ser	Asp	Arg	
1430						1435					1440				
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Ala	Lys	Ser	Arg	Lys	Ser	Lys	Thr	Pro	Asp	Pro	Phe	Ser	Asp	Thr	
1445						1450					1455				
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Glu Val Ser Pro Glu Arg Gly Ala Arg Arg Pro Asn Pro Gln Ile	
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Lys Val Ser Gln Ser Asn Ala Gln Met Ala Thr Pro Thr Gln Asp	
1475 1480 1485	
agg aag cag atg acg acg agc act ctc gcg cag tcg gct acg gaa	4509
Arg Lys Gln Met Thr Thr Ser Thr Leu Ala Gln Ser Ala Thr Glu	
1490 1495 1500	
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Thr Val Gly Asn Glu Ile Phe Asp Ala Glu Cys Leu Lys Leu Ile	
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Asn Glu Tyr Phe Tyr Gly Val Arg Ile Tyr Pro Gly Gln Asp Pro	
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Thr His Val Tyr Ile Gly Trp Val Thr Thr Gln Tyr His Leu His	
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Ser Lys Asp Phe Asn Gln Ser Lys Val Thr Lys Ser Ser Val Ile	
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atc att gat gat tac gat agg gtt gtt gag aac gta aac cgg cag	4734
Ile Ile Asp Asp Tyr Asp Arg Val Val Glu Asn Val Asn Arg Gln	
1565 1570 1575	
tcg tgc tac atg gtg cga gct gac gag cta tac aac gag gtg atg	4779
Ser Cys Tyr Met Val Arg Ala Asp Glu Leu Tyr Asn Glu Val Met	
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Ala Glu Ala Thr Ala Lys Gly Ala Ser Gln Gly Met Phe Ile Gly	
1595 1600 1605	
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Cys Ser Val Asp Thr Ser Thr Gly Ser Val Ser Phe Thr Cys Glu	
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Gly Lys Asp Thr Ser Phe Lys Phe Lys Met Glu Pro Glu Thr Lys	
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Leu Phe Pro Ala Ile Phe Val Glu Ala Thr Ser Lys Glu Ile Leu	
1640 1645 1650	
cag ata gag ctg ggc aga tca gcc acc agc ctt cca cta tca gcc	5004
Gln Ile Glu Leu Gly Arg Ser Ala Thr Ser Leu Pro Leu Ser Ala	
1655 1660 1665	
gct gta cta cct acg agt gat aag cat gtc ata cca cag ttc ccg	5049
Ala Val Leu Pro Thr Ser Asp Lys His Val Ile Pro Gln Phe Pro	
1670 1675 1680	
ccg agg ttg aag gtg cag tgc ttg aaa cca cat cag tgg gct agg	5094

Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu	Lys	Pro	His	Gln	Trp	Ala	Arg		
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Val	Pro	Asn	Gln	Ser	Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp		
1700						1705					1710					
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Ile	Arg	Gly	Trp	Ser	Met	Leu	Cys	Glu	Asp	Ala	Val	Ser	Met	Leu		
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Ala	Leu	His	Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu		
1730						1735					1740					
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Leu	Ile	Glu	Met	Asp	Lys	Leu	Leu	Ser	Phe	His	Ser	His	Thr	Leu		
1745						1750					1755					
acg	tta	tac	gct	gct	tta	tgt	tac	cag	agt	aac	tac	agg	gcg	gcc	5319	
Thr	Leu	Tyr	Ala	Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala		
1760						1765					1770					
cac	gct	ctg	tgc	acg	cac	gtg	gac	cag	aag	cag	ctg	ctg	tac	gcg	5364	
His	Ala	Leu	Cys	Thr	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala		
1775						1780					1785					
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Ile	Gln	Ser	Gln	Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr		
1790						1795					1800					
gat	ctg	ctc	ata	gcg	ctg	cat	ctc	gag	tcg	cat	gcc	acc	acc	atg	5454	
Asp	Leu	Leu	Ile	Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met		
1805						1810					1815					
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Glu	Ala	Cys	Lys	Asn	Glu	Phe	Val	Ile	Pro	Leu	Gly	Pro	Glu	Leu		
1820						1825					1830					
aag	gcg	ctg	tac	gag	gag	ccc	gac	atg	gga	cac	tcg	ctg	cgc	tcg	5544	
Lys	Ala	Leu	Tyr	Glu	Glu	Pro	Asp	Met	Gly	His	Ser	Leu	Arg	Ser		
1835						1840					1845					
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Leu	Gln	Thr	Glu	Ser	Val	Arg	Pro	Gln	Met	Lys	Met	Thr	Asp	Ile		
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Ala	Glu	Ser	Ile	Thr	Glu	Ile	Ser	Asn	Leu	Tyr	Ser	Pro	Tyr	Phe		
1865						1870					1875					
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Pro	Leu	Glu	Val	Val	Arg	Glu	Phe	Val	Met	Gln	Ala	Leu	Ala	Glu		
1880						1885					1890					
gct	gtg	gag	acc	aac	cag	gtg	cac	aac	cgg	gat	cct	gta	ggg	ggg	5724	
Ala	Val	Glu	Thr	Asn	Gln	Val	His	Asn	Arg	Asp	Pro	Val	Gly	Gly		
1895						1900					1905					
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Ser	Asn	Glu	Asn	Leu	Phe	Leu	Pro	Leu	Ile	Lys	Leu	Val	Asp	Arg	
1910						1915					1920				
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Leu	Leu	Leu	Val	Gly	Met	Met	Arg	Asp	Glu	Asp	Val	Glu	Lys	Leu	
1925						1930					1935				
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Leu	Ile	Met	Thr	Asn	Pro	Glu	Thr	Trp	Asp	Pro	Ser	Phe	Asp	Lys	
1940						1945					1950				
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Glu	Gly	Lys	Asp	Glu	His	Arg	Lys	Gly	Leu	Leu	His	Met	Lys	Met	
1955						1960					1965				
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Ala	Glu	Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	Gln	His	Leu	
1970						1975					1980				
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Asn	Asp	Ile	Gln	Leu	Arg	His	Arg	Val	Glu	Ala	Ile	Ile	Ala	Phe	
1985						1990					1995				
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Ala	His	Asp	Phe	Val	Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg	
2000						2005					2010				
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Tyr	Thr	Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala	
2015						2020					2025				
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Lys	Lys	Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn	
2030						2035					2040				
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Ala	Ile	Leu	Ser	Phe	Lys	His	Leu	Glu	Glu	Glu	Asp	Lys	Glu	Asn	
2045						2050					2055				
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Cys	Pro	Cys	Gly	Glu	Glu	Leu	Ile	Ala	Arg	Met	Asn	Glu	Phe	His	
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2075						2080					2085				
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Asp	Ala	Ala	Glu	Asn	Gln	Glu	Pro	Glu	Ala	Lys	Pro	Gly	Ala	Phe	
2090						2095					2100				
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Gly	Lys	Leu	Tyr	Asn	Ile	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu	
2105						2110					2115				
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Glu	Ala	Lys	Ala	Ile	Glu	Glu	Pro	Pro	Lys	Lys	Thr	Pro	Glu	Glu	
2120						2125					2130				
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Lys	Phe	Arg	Lys	Val	Leu	Ile	Gln	Thr	Ile	Val	Asn	Trp	Ala	Glu	
2135						2140					2145				
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Glu	Ser	Gln	Ile	Glu	Thr	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser	
2150						2155					2160				
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Leu	Leu	Val	Arg	Gln	Tyr	Asp	Ala	Val	Gly	Glu	Leu	Ile	Arg	Ala	
2165						2170					2175				
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2180						2185					2190				
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Ala	Glu	Met	Trp	Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro	
2195						2200					2205				
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Val	Gln	Met	Ser	Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu	
2210						2215					2220				
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Trp	Lys	Leu	Val	Asn	Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu	
2225						2230					2235				
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Ile	Arg	Val	Leu	Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met	
2240						2245					2250				
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Asn	Thr	Leu	Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Gln	Pro	
2255						2260					2265				
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Ser	Ser	Gln	Pro	Val	Ala	Glu	Asp	Asn	Lys	Glu	Lys	Asp	Thr	Ser	
2270						2275					2280				
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His	Glu	Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys	
2285						2290					2295				
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Arg	Thr	Gly	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp	
2300						2305					2310				
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Phe	Leu	Leu	Glu	Asn	Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu	
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Asn	Thr	Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys	
2345						2350					2355				
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Leu	Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Gly	Val	Ile		
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Tyr	Lys	Leu	Leu	Glu	Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	Ala		
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Lys	His	Ala	Tyr	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu		
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2795						2800					2805					
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Gln	Val	Ala	Ser	Tyr	Lys	Met	Leu	Gly	Ser	Leu	Tyr	Ala	Leu	Gly	
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3695						3700					3705				
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4190						4195					4200						
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Cys	Glu	Thr	Asn	His	Asp	Gly	Lys	Leu	Asp	Tyr	Ile	Gly	Phe	Cys			
4220						4225					4230						
gac	cgt	ttc	cac	gag	cct	gcc	aag	gag	atc	ggg	ttt	aac	ttg	gcc		12744	
Asp	Arg	Phe	His	Glu	Pro	Ala	Lys	Glu	Ile	Gly	Phe	Asn	Leu	Ala			
4235						4240					4245						
gtg	tta	ctg	act	aac	ttg	tct	gaa	cat	atg	ccg	aac	gag	cct	aga		12789	
Val	Leu	Leu	Thr	Asn	Leu	Ser	Glu	His	Met	Pro	Asn	Glu	Pro	Arg			
4250						4255					4260						
ttg	gca	cgt	ttc	ctg	gag	acg	gca	ggg	tca	gtc	ctg	aac	tac	ttc		12834	
Leu	Ala	Arg	Phe	Leu	Glu	Thr	Ala	Gly	Ser	Val	Leu	Asn	Tyr	Phe			
4265						4270					4275						
gaa	cca	ttc	ctg	ggc	cgt	atc	gag	atc	atg	ggc	ggc	tcc	aag	cgc		12879	
Glu	Pro	Phe	Leu	Gly	Arg	Ile	Glu	Ile	Met	Gly	Gly	Ser	Lys	Arg			
4280						4285					4290						
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Ile	Glu	Arg	Val	Tyr	Phe	Glu	Ile	Lys	Glu	Ser	Asn	Ile	Glu	Gln			
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tgg	gag	aaa	ccg	caa	att	aag	gaa	tcc	aaa	cgc	gcg	ttc	ttc	tac		12969	
Trp	Glu	Lys	Pro	Gln	Ile	Lys	Glu	Ser	Lys	Arg	Ala	Phe	Phe	Tyr			
4310						4315					4320						
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Ser	Ile	Val	Thr	Glu	Gly	Gly	Asp	Lys	Glu	Lys	Leu	Glu	Ala	Phe			
4325						4330					4335						
gtg	aac	ttc	tgt	gag	gac	gcc	atc	ttt	gaa	atg	acg	cac	gcg	tcg		13059	
Val	Asn	Phe	Cys	Glu	Asp	Ala	Ile	Phe	Glu	Met	Thr	His	Ala	Ser			
4340						4345					4350						
gga	ctg	atg	gcc	gcg	tcc	gaa	gag	tcg	gtg	gga	ggg	acc	aag	aat		13104	
Gly	Leu	Met	Ala	Ala	Ser	Glu	Glu	Ser	Val	Gly	Gly	Thr	Lys	Asn			
4355						4360					4365						
aga	gag	gcc	agc	tat	atg	tat	atg	ggg	gat	gat	gat	gat	gag	aga		13149	
Arg	Glu	Ala	Ser	Tyr	Met	Tyr	Met	Gly	Asp	Asp	Asp	Asp	Glu	Arg			
4370						4375					4380						
gcc	ggc	aaa	gat	cca	ttc	cgt	cgc	gga	ctc	cag	tca	gtc	aaa	gac		13194	

Ala Gly	Lys Asp	Pro Phe	Arg	Arg Gly	Leu Gln	Ser	Val Lys Asp	
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ggc gtc	gcc acg	gca ttt	tca	tcc tta	tct cct	tcc	aac ata aag	13239
Gly Val	Ala Thr	Ala Phe	Ser	Ser Leu	Ser Pro	Ser	Asn Ile Lys	
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Ala Lys	Ile Ala	Asp Met	Gln	Gln Met	Pro Pro	Ala	Glu Leu Ala	
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Val Gly	Phe Phe	Lys Met	Phe	Phe Tyr	Leu Phe	Tyr	Tyr Leu Gly	
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Tyr Gly	Val Leu	Val Val	Val	Arg Tyr	Ile Phe	Gly	Val Leu Leu	
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Gly Leu	Met Arg	Gly Pro	Gln	Thr Asp	Glu Pro	Pro	Pro Glu Pro	
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Thr Glu	Glu Glu	Lys Ile	Gly	Gln Leu	Arg His	Arg	Leu Leu Ala	
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Thr Gln	Ser Ser	Arg His	Leu	Pro Ala	Leu Pro	Pro	Ala Asp Asp	
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Thr Gly	Gln Met	Gln Val	Pro	Ala Phe	Gly Leu	Asp	Ile Thr Lys	
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Glu Asp	Asn Gly	Gln Ile	Gln	Val Lys	Pro His	Glu	Ser Pro Ser	
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Thr Ser	Thr Pro	Ser Ser	Gly	Glu Glu	Ala Glu	Val	Ser Pro Asp	
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Glu Ser	Ala Asp	His Thr	Glu	Glu Gln	Arg Pro	Pro	Ser Leu Ile	
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Asp Leu	Leu Gly	Gly Glu	Gln	Ala Lys	Lys Gln	Ala	Gln Glu Arg	
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Met Glu	Ala Gln	Ala Ala	Gln	Gln Ala	Ala Met	Ser	Ala Ile Glu	
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Ala Glu	Ser Lys	Lys Ala	Val	Gln Gly	Pro Ala	Pro	Ser Ala Leu	
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Ser	Gln	Val	Asp	Leu	Ser	Gln	Tyr	Thr	Arg	Arg	Ala	Val	Ser	Phe	
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Leu	Ala	Arg	Asn	Phe	Tyr	Asn	Leu	Lys	Tyr	Val	Ala	Leu	Val	Leu	
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Ala	Phe	Cys	Ile	Asn	Phe	Val	Leu	Leu	Phe	Tyr	Lys	Val	Ser	Thr	
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Lys	Lys	Lys	Val	Arg	Ala	Lys	Tyr	Ser	Glu	Thr	Tyr	Asp	Phe	Asp	
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Ile	Asp	Trp	Arg	Tyr	Gln	Val	Trp	Lys	Ala	Gly	Val	Thr	Ile	Thr	
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Met	Gly	Asn	Phe	Asn	Asn	Phe	Phe	Phe	Ala	Ala	His	Leu	Leu	Asp	
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Thr	His	Asn	Gly	Lys	Gln	Leu	Val	Leu	Thr	Val	Met	Leu	Leu	Thr	
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Lys	Phe	Tyr	Val	Gln	Glu	Glu	Asp	Asp	Glu	Val	Asn	Arg	Asn	Cys	
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Arg	Ala	Gly	Gly	Gly	Ile	Gly	Asp	Glu	Leu	Glu	Pro	Pro	Asp	Gly	
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Asp	Asp	Ser	Glu	Val	Tyr	Arg	Ile	Ile	Phe	Asp	Ile	Ser	Phe	Phe	
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Phe	Phe	Ile	Ile	Val	Ile	Leu	Leu	Ala	Ile	Leu	Gln	Gly	Leu	Ile	
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Ile	Asp	Ala	Phe	Gly	Glu	Leu	Arg	Asp	Gln	Leu	Glu	Ser	Val	Lys	
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Glu	Asp	Met	Glu	Ser	Asn	Cys	Phe	Ile	Cys	Gly	Ile	Asn	Lys	Asp	
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Tyr	Phe	Asp	Lys	Val	Pro	His	Gly	Phe	Asp	Thr	His	Val	Gln	Arg	
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gaa	cac	aat	tta	gct	aat	tac	atg	ttc	ttc	ctc	atg	cat	ctc	att	15174
Glu	His	Asn	Leu	Ala	Asn	Tyr	Met	Phe	Phe	Leu	Met	His	Leu	Ile	
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Asn	Lys	Pro	Asp	Thr	Glu	Tyr	Thr	Gly	Gln	Glu	Thr	Tyr	Val	Trp			
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Asn	Met	Tyr	Thr	Gln	Arg	Cys	Trp	Asp	Phe	Phe	Pro	Val	Gly	Asp			
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tgt	ttc	cga	aag	caa	tac	gaa	gac	ctc	atg	gga	gaa	tag				15303	
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 Arg Val Cys Leu Ala Ala Glu Gly Phe Gly Asn Arg His Cys Phe Leu
 35 40 45
 Glu Asn Ile Ala Asp Lys Asn Ile Pro Pro Asp Leu Ser Gln Cys Val
 50 55 60
 Phe Val Ile Glu Gln Ala Leu Ser Val Arg Ala Leu Gln Glu Leu Val
 65 70 75 80
 Thr Ala Ala Gly Ser Glu Thr Gly Lys Glu Asn Leu Gly Lys Gly Thr
 85 90 95
 Gly Ser Gly His Arg Thr Leu Leu Tyr Gly Asn Ala Ile Leu Leu Arg
 100 105 110
 His Leu Asn Ser Asp Met Tyr Leu Ala Cys Leu Ser Thr Ser Ser Ser
 115 120 125
 Gln Asp Lys Leu Ala Phe Asp Val Gly Leu Gln Gln His Ser Gln Gly
 130 135 140
 Glu Ala Cys Trp Trp Thr Leu His Pro Ala Ser Lys Gln Arg Ser Glu
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 Gly Glu Lys Val Arg Val Gly Asp Asp Leu Ile Leu Val Ser Val Ala
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 Thr Glu Arg Tyr Leu His Thr Thr Lys Glu Asn Glu Val Ser Ile Val
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 Asn Ala Ser Phe His Val Thr His Trp Ser Val Gln Pro Tyr Gly Thr
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Gly	Ile	Ser	Arg	Met	Lys	Tyr	Val	Gly	Tyr	Val	Phe	Gly	Gly	Asp	Val	210	215	220	
Leu	Arg	Phe	Phe	His	Gly	Gly	Asp	Glu	Cys	Leu	Thr	Ile	Pro	Ser	Thr	225	230	235	240
Trp	Thr	Lys	Asp	Gly	Gly	Gln	Asn	Ile	Val	Val	Tyr	Glu	Gly	Gly	Ser	245	250	255	
Val	Met	Ser	Gln	Ala	Arg	Ser	Leu	Trp	Arg	Leu	Glu	Leu	Ala	Arg	Thr	260	265	270	
Lys	Trp	Ala	Gly	Gly	Phe	Ile	Asn	Trp	Tyr	His	Pro	Met	Arg	Ile	Arg	275	280	285	
His	Ile	Thr	Thr	Gly	Arg	Tyr	Leu	Gly	Val	Asn	Asp	Gln	Asn	Glu	Leu	290	295	300	
Tyr	Leu	Val	Ser	Arg	Glu	Glu	Ala	Thr	Thr	Ala	Ser	Cys	Ala	Phe	Cys	305	310	315	320
Leu	Arg	Gln	Glu	Lys	Asp	Asp	Gln	Lys	Gln	Val	Leu	Glu	Asp	Lys	Asp	325	330	335	
Leu	Glu	Val	Ile	Gly	Ala	Pro	Ile	Ile	Lys	Tyr	Gly	Asp	Ser	Thr	Val	340	345	350	
Ile	Val	Gln	His	Ser	Glu	Thr	Gly	Leu	Trp	Leu	Ser	Tyr	Lys	Ser	Tyr	355	360	365	
Glu	Thr	Lys	Lys	Lys	Gly	Val	Gly	Lys	Val	Glu	Glu	Lys	Gln	Ala	Ile	370	375	380	
Leu	His	Glu	Glu	Gly	Lys	Met	Asp	Asp	Gly	Leu	Asp	Phe	Ser	Arg	Ser	385	390	395	400
Gln	Glu	Glu	Glu	Ser	Arg	Thr	Ala	Arg	Val	Ile	Arg	Lys	Cys	Ser	Ser	405	410	415	
Leu	Phe	Thr	Lys	Phe	Ile	Asn	Gly	Leu	Glu	Thr	Leu	Gln	Glu	Asn	Arg	420	425	430	
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Cys	Leu	Glu	Asp	Leu	Ile	Asn	Tyr	Phe	Ala	Gln	Pro	Asp	Glu	Asp	Met	450	455	460	
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Asp	Leu	Phe	Gln	Glu	Glu	Gly	Ile	Leu	Asn	Leu	Ile	Leu	Glu	Ala	Ile	485	490	495	
Asp	Lys	Ile	Asn	Val	Ile	Thr	Ser	Gln	Gly	Phe	Leu	Ala	Gly	Phe	Leu	500	505	510	
Ala	Gly	Asp	Glu	Ser	Gly	Gln	Ser	Trp	Glu	Met	Ile	Ser	Gly	Tyr	Leu	515	520	525	

Tyr Gln Leu Leu Ala Ala Ile Ile Lys Gly Asn His Thr Asn Cys Ala
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 Gln Phe Ala Asn Ser Asn Arg Leu Asn Trp Leu Phe Ser Arg Leu Gly
 545 550 555 560
 Ser Gln Ala Ser Gly Glu Gly Thr Gly Met Leu Asp Val Leu His Cys
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 Val Leu Ile Asp Ser Pro Glu Ala Leu Asn Met Met Arg Asp Glu His
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 Ile Lys Val Ile Ile Ser Leu Leu Glu Lys His Gly Arg Asp Pro Lys
 595 600 605
 Val Leu Asp Val Leu Cys Ser Leu Cys Val Gly Asn Gly Val Ala Val
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 Arg Ser Ser Gln Asn Asn Ile Cys Asp Tyr Leu Leu Pro Gly Lys Asn
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 Tyr Phe Glu Val Thr Met Asp His Ile Glu Lys Thr Thr His Met Met
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 Pro His Leu Arg Ile Gly Trp Ala Asn Thr Thr Gly Tyr Val Pro Tyr
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 Thr Pro Val Asn Arg Thr His Ala Glu Glu Pro Tyr Ile Arg Lys Gly
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 Arg Phe Leu Leu Gly Gly Glu His Gly Arg Leu Arg Tyr Ala Ala Pro
 805 810 815
 Glu Gly Tyr Ser Pro Leu Val Glu Ser Leu Leu Pro Gln Gln Ile Leu
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 Ser Leu Glu Pro Cys Phe Tyr Phe Gly Asn Leu Ser Lys Arg Ala Leu
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Ala	Gly	Pro	Pro	Leu	Val	Gln	Asp	Asp	Thr	Ala	Phe	Val	Pro	Thr	Pro	850	855	860	
Val	Asp	Thr	Leu	Gln	Ile	Thr	Leu	Pro	Thr	Tyr	Val	Glu	Gln	Ile	Arg	865	870	875	880
Asp	Lys	Leu	Ala	Glu	Asn	Ile	His	Glu	Met	Trp	Ala	Met	Asn	Lys	Ile	885	890	895	
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His	Pro	Cys	Leu	Val	Pro	Phe	Glu	Arg	Leu	Pro	Pro	Ala	Glu	Lys	Arg	915	920	925	
Tyr	Asp	Ile	Gln	Leu	Ala	Val	Gln	Thr	Leu	Lys	Thr	Ile	Leu	Ala	Leu	930	935	940	
Gly	Tyr	Tyr	Ile	Ser	Leu	Asp	Lys	Pro	Pro	Ala	Arg	Ile	Arg	Asn	Val	945	950	955	960
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Val	Asp	Gln	Leu	Ala	Glu	Asn	Thr	His	Asn	Leu	Trp	Ala	Arg	Glu	Arg	995	1000	1005	
Ile	Gln	Gln	Gly	Trp	Thr	Tyr	Gly	Leu	Asn	Glu	Asp	Ser	Asp	Met		1010	1015	1020	
His	Arg	Ser	Pro	His	Leu	Val	Pro	Tyr	Pro	Lys	Val	Asp	Asp	Ala		1025	1030	1035	
Ile	Lys	Lys	Ala	Asn	Arg	Asp	Thr	Ala	Ser	Glu	Thr	Val	Arg	Thr		1040	1045	1050	
Leu	Leu	Val	Tyr	Gly	Tyr	Met	Leu	Asp	Pro	Pro	Thr	Gly	Glu	Gln		1055	1060	1065	
His	Glu	Ala	Leu	Leu	Leu	Glu	Ala	Ser	Lys	Gln	Lys	Gln	Ala	Asp		1070	1075	1080	
Phe	Arg	Thr	Tyr	Arg	Ala	Glu	Lys	Asn	Tyr	Ala	Val	Ser	Ser	Gly		1085	1090	1095	
Lys	Trp	Tyr	Phe	Glu	Phe	Glu	Ile	Leu	Thr	Ala	Gly	Pro	Met	Arg		1100	1105	1110	
Val	Gly	Trp	Ala	His	Ala	Asp	Met	Ala	Pro	Gly	Met	Met	Leu	Gly		1115	1120	1125	
Gln	Asp	Glu	Asn	Ser	Trp	Ala	Phe	Asp	Gly	Tyr	Asn	Glu	Glu	Lys		1130	1135	1140	
Val	Tyr	Ser	Gly	Asn	Thr	Glu	Ser	Phe	Gly	Lys	Gln	Trp	Ala	Val		1145	1150	1155	

Gly	Asp	Val	Val	Gly	Val	Phe	Leu	Asp	Leu	Ile	Asp	Lys	Thr	Ile
1160						1165					1170			
Ser	Phe	Ser	Leu	Asn	Gly	Glu	Leu	Leu	Met	Asp	Ala	Leu	Gly	Gly
1175						1180					1185			
Glu	Thr	Thr	Phe	Ala	Asp	Val	Gln	Gly	Asp	Asn	Phe	Val	Pro	Ala
1190						1195					1200			
Cys	Thr	Leu	Gly	Val	Gly	Gln	Lys	Ala	Arg	Leu	Thr	Tyr	Gly	Gln
1205						1210					1215			
Asp	Val	Asn	Thr	Leu	Lys	Tyr	Phe	Thr	Thr	Cys	Gly	Leu	Gln	Glu
1220						1225					1230			
Gly	Tyr	Glu	Pro	Phe	Cys	Val	Asn	Met	Lys	Arg	Asp	Val	Thr	His
1235						1240					1245			
Trp	Tyr	Thr	Lys	Asp	Gln	Pro	Ile	Phe	Glu	Asn	Thr	Asp	Glu	Met
1250						1255					1260			
Ile	Asp	Thr	Arg	Ile	Asp	Val	Thr	Arg	Ile	Pro	Ala	Gly	Ser	Asp
1265						1270					1275			
Thr	Pro	Pro	Cys	Leu	Lys	Ile	Ser	His	Asn	Thr	Phe	Glu	Thr	Met
1280						1285					1290			
Glu	Lys	Ala	Asn	Trp	Glu	Phe	Leu	Arg	Leu	Ser	Leu	Pro	Val	Ile
1295						1300					1305			
Cys	His	Asn	Glu	Phe	Ile	Asp	Glu	Ala	Glu	Lys	Ala	Arg	Arg	Trp
1310						1315					1320			
Val	Glu	Ile	Lys	Asp	Arg	Gln	Gln	Ile	Leu	Met	Lys	Glu	Ala	Val
1325						1330					1335			
Glu	Ala	Gln	Met	Pro	Ala	His	Ile	Asp	Gln	Ile	Met	Arg	Ser	Gly
1340						1345					1350			
Phe	Thr	Met	Asn	Asp	Ile	Lys	Gly	Leu	His	Tyr	Glu	Asp	Asn	Gln
1355						1360					1365			
Glu	Glu	Leu	Pro	Ser	Ser	Lys	Met	Lys	Arg	Leu	Pro	Ser	Arg	Pro
1370						1375					1380			
Pro	Arg	Lys	Gly	Ser	Met	Thr	Arg	Gly	Gln	Val	Asn	Gly	Met	His
1385						1390					1395			
Arg	Ser	Thr	Ser	Glu	Ala	Glu	Met	Ala	Lys	Tyr	Asp	Leu	Gly	Ala
1400						1405					1410			
Gln	Gly	Leu	Thr	Pro	Asp	Asp	Lys	Lys	Asp	Lys	Arg	Gly	Arg	Ser
1415						1420					1425			
Pro	Phe	Lys	Phe	Phe	Arg	Ser	Lys	Arg	Gly	Glu	Ser	Ser	Asp	Arg
1430						1435					1440			
Ala	Lys	Ser	Arg	Lys	Ser	Lys	Thr	Pro	Asp	Pro	Phe	Ser	Asp	Thr
1445						1450					1455			

Glu	Val	Ser	Pro	Glu	Arg	Gly	Ala	Arg	Arg	Pro	Asn	Pro	Gln	Ile
1460						1465					1470			
Lys	Val	Ser	Gln	Ser	Asn	Ala	Gln	Met	Ala	Thr	Pro	Thr	Gln	Asp
1475						1480					1485			
Arg	Lys	Gln	Met	Thr	Thr	Ser	Thr	Leu	Ala	Gln	Ser	Ala	Thr	Glu
1490						1495					1500			
Thr	Val	Gly	Asn	Glu	Ile	Phe	Asp	Ala	Glu	Cys	Leu	Lys	Leu	Ile
1505						1510					1515			
Asn	Glu	Tyr	Phe	Tyr	Gly	Val	Arg	Ile	Tyr	Pro	Gly	Gln	Asp	Pro
1520						1525					1530			
Thr	His	Val	Tyr	Ile	Gly	Trp	Val	Thr	Thr	Gln	Tyr	His	Leu	His
1535						1540					1545			
Ser	Lys	Asp	Phe	Asn	Gln	Ser	Lys	Val	Thr	Lys	Ser	Ser	Val	Ile
1550						1555					1560			
Ile	Ile	Asp	Asp	Tyr	Asp	Arg	Val	Val	Glu	Asn	Val	Asn	Arg	Gln
1565						1570					1575			
Ser	Cys	Tyr	Met	Val	Arg	Ala	Asp	Glu	Leu	Tyr	Asn	Glu	Val	Met
1580						1585					1590			
Ala	Glu	Ala	Thr	Ala	Lys	Gly	Ala	Ser	Gln	Gly	Met	Phe	Ile	Gly
1595						1600					1605			
Cys	Ser	Val	Asp	Thr	Ser	Thr	Gly	Ser	Val	Ser	Phe	Thr	Cys	Glu
1610						1615					1620			
Gly	Lys	Asp	Thr	Ser	Phe	Lys	Phe	Lys	Met	Glu	Pro	Glu	Thr	Lys
1625						1630					1635			
Leu	Phe	Pro	Ala	Ile	Phe	Val	Glu	Ala	Thr	Ser	Lys	Glu	Ile	Leu
1640						1645					1650			
Gln	Ile	Glu	Leu	Gly	Arg	Ser	Ala	Thr	Ser	Leu	Pro	Leu	Ser	Ala
1655						1660					1665			
Ala	Val	Leu	Pro	Thr	Ser	Asp	Lys	His	Val	Ile	Pro	Gln	Phe	Pro
1670						1675					1680			
Pro	Arg	Leu	Lys	Val	Gln	Cys	Leu	Lys	Pro	His	Gln	Trp	Ala	Arg
1685						1690					1695			
Val	Pro	Asn	Gln	Ser	Leu	Gln	Val	His	Ala	Leu	Lys	Leu	Ser	Asp
1700						1705					1710			
Ile	Arg	Gly	Trp	Ser	Met	Leu	Cys	Glu	Asp	Ala	Val	Ser	Met	Leu
1715						1720					1725			
Ala	Leu	His	Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ile	Asp	Ile	Leu	Glu
1730						1735					1740			
Leu	Ile	Glu	Met	Asp	Lys	Leu	Leu	Ser	Phe	His	Ser	His	Thr	Leu
1745						1750					1755			

Thr	Leu	Tyr	Ala	Ala	Leu	Cys	Tyr	Gln	Ser	Asn	Tyr	Arg	Ala	Ala
1760						1765					1770			
His	Ala	Leu	Cys	Thr	His	Val	Asp	Gln	Lys	Gln	Leu	Leu	Tyr	Ala
1775						1780					1785			
Ile	Gln	Ser	Gln	Tyr	Met	Ser	Gly	Pro	Leu	Arg	Gln	Gly	Phe	Tyr
1790						1795					1800			
Asp	Leu	Leu	Ile	Ala	Leu	His	Leu	Glu	Ser	His	Ala	Thr	Thr	Met
1805						1810					1815			
Glu	Ala	Cys	Lys	Asn	Glu	Phe	Val	Ile	Pro	Leu	Gly	Pro	Glu	Leu
1820						1825					1830			
Lys	Ala	Leu	Tyr	Glu	Glu	Pro	Asp	Met	Gly	His	Ser	Leu	Arg	Ser
1835						1840					1845			
Leu	Gln	Thr	Glu	Ser	Val	Arg	Pro	Gln	Met	Lys	Met	Thr	Asp	Ile
1850						1855					1860			
Ala	Glu	Ser	Ile	Thr	Glu	Ile	Ser	Asn	Leu	Tyr	Ser	Pro	Tyr	Phe
1865						1870					1875			
Pro	Leu	Glu	Val	Val	Arg	Glu	Phe	Val	Met	Gln	Ala	Leu	Ala	Glu
1880						1885					1890			
Ala	Val	Glu	Thr	Asn	Gln	Val	His	Asn	Arg	Asp	Pro	Val	Gly	Gly
1895						1900					1905			
Ser	Asn	Glu	Asn	Leu	Phe	Leu	Pro	Leu	Ile	Lys	Leu	Val	Asp	Arg
1910						1915					1920			
Leu	Leu	Leu	Val	Gly	Met	Met	Arg	Asp	Glu	Asp	Val	Glu	Lys	Leu
1925						1930					1935			
Leu	Ile	Met	Thr	Asn	Pro	Glu	Thr	Trp	Asp	Pro	Ser	Phe	Asp	Lys
1940						1945					1950			
Glu	Gly	Lys	Asp	Glu	His	Arg	Lys	Gly	Leu	Leu	His	Met	Lys	Met
1955						1960					1965			
Ala	Glu	Gly	Ala	Lys	Leu	Gln	Met	Cys	Tyr	Leu	Leu	Gln	His	Leu
1970						1975					1980			
Asn	Asp	Ile	Gln	Leu	Arg	His	Arg	Val	Glu	Ala	Ile	Ile	Ala	Phe
1985						1990					1995			
Ala	His	Asp	Phe	Val	Gly	Asp	Leu	Gln	Thr	Asp	Gln	Leu	Arg	Arg
2000						2005					2010			
Tyr	Thr	Glu	Ile	Lys	Gln	Ser	Asp	Leu	Pro	Ser	Ala	Val	Ala	Ala
2015						2020					2025			
Lys	Lys	Thr	Arg	Glu	Phe	Arg	Cys	Pro	Pro	Arg	Glu	Gln	Met	Asn
2030						2035					2040			
Ala	Ile	Leu	Ser	Phe	Lys	His	Leu	Glu	Glu	Glu	Asp	Lys	Glu	Asn
2045						2050					2055			

Cys	Pro	Cys	Gly	Glu	Glu	Leu	Ile	Ala	Arg	Met	Asn	Glu	Phe	His
2060						2065					2070			
Asp	Thr	Leu	Met	Ala	His	Val	Ser	Leu	His	Ala	Leu	Gln	Glu	Pro
2075						2080					2085			
Asp	Ala	Ala	Glu	Asn	Gln	Glu	Pro	Glu	Ala	Lys	Pro	Gly	Ala	Phe
2090						2095					2100			
Gly	Lys	Leu	Tyr	Asn	Ile	Ile	Asn	Thr	Val	Lys	Glu	Leu	Glu	Glu
2105						2110					2115			
Glu	Ala	Lys	Ala	Ile	Glu	Glu	Pro	Pro	Lys	Lys	Thr	Pro	Glu	Glu
2120						2125					2130			
Lys	Phe	Arg	Lys	Val	Leu	Ile	Gln	Thr	Ile	Val	Asn	Trp	Ala	Glu
2135						2140					2145			
Glu	Ser	Gln	Ile	Glu	Thr	Pro	Lys	Leu	Val	Arg	Glu	Met	Phe	Ser
2150						2155					2160			
Leu	Leu	Val	Arg	Gln	Tyr	Asp	Ala	Val	Gly	Glu	Leu	Ile	Arg	Ala
2165						2170					2175			
Leu	Glu	Lys	Thr	Tyr	Val	Ile	Asn	Ala	Lys	Thr	Lys	Leu	Asp	Val
2180						2185					2190			
Ala	Glu	Met	Trp	Val	Gly	Leu	Ser	Gln	Ile	Arg	Ala	Leu	Leu	Pro
2195						2200					2205			
Val	Gln	Met	Ser	Gln	Glu	Glu	Glu	Glu	Leu	Met	Arg	Lys	Arg	Leu
2210						2215					2220			
Trp	Lys	Leu	Val	Asn	Asn	His	Thr	Phe	Phe	Gln	His	Pro	Asp	Leu
2225						2230					2235			
Ile	Arg	Val	Leu	Arg	Val	His	Glu	Asn	Val	Met	Ala	Val	Met	Met
2240						2245					2250			
Asn	Thr	Leu	Gly	Arg	Arg	Ala	Gln	Ala	Gln	Ser	Asp	Ala	Gln	Pro
2255						2260					2265			
Ser	Ser	Gln	Pro	Val	Ala	Glu	Asp	Asn	Lys	Glu	Lys	Asp	Thr	Ser
2270						2275					2280			
His	Glu	Met	Val	Val	Ala	Cys	Cys	Arg	Phe	Leu	Cys	Tyr	Phe	Cys
2285						2290					2295			
Arg	Thr	Gly	Arg	Gln	Asn	Gln	Lys	Ala	Met	Phe	Asp	His	Phe	Asp
2300						2305					2310			
Phe	Leu	Leu	Glu	Asn	Ser	Asn	Ile	Leu	Leu	Ser	Arg	Pro	Ser	Leu
2315						2320					2325			
Arg	Gly	Ser	Thr	Pro	Leu	Asp	Val	Ala	Tyr	Ser	Ser	Leu	Met	Glu
2330						2335					2340			
Asn	Thr	Glu	Leu	Ala	Leu	Ala	Leu	Arg	Glu	His	Tyr	Leu	Glu	Lys
2345						2350					2355			

Ile	Ala	Val	Tyr	Leu	Ser	Arg	Cys	Gly	Leu	Gln	Ser	Asn	Ser	Glu
2360						2365					2370			
Leu	Val	Glu	Lys	Gly	Tyr	Pro	Asp	Leu	Gly	Trp	Asp	Pro	Val	Glu
2375						2380					2385			
Gly	Glu	Arg	Tyr	Leu	Asp	Phe	Leu	Arg	Phe	Cys	Val	Trp	Val	Asn
2390						2395					2400			
Gly	Glu	Ser	Val	Glu	Glu	Asn	Ala	Asn	Leu	Val	Ile	Arg	Leu	Leu
2405						2410					2415			
Ile	Arg	Arg	Pro	Glu	Cys	Leu	Gly	Pro	Ala	Leu	Arg	Gly	Glu	Gly
2420						2425					2430			
Glu	Gly	Leu	Leu	Lys	Ala	Ile	Val	Asp	Ala	Asn	Lys	Met	Ser	Glu
2435						2440					2445			
Arg	Ile	Ala	Asp	Arg	Arg	Lys	Leu	Arg	Glu	Met	Glu	Gln	Glu	Gly
2450						2455					2460			
Asp	Val	Asn	Phe	Ser	His	Pro	Leu	Pro	Glu	Ser	Asp	Glu	Asp	Glu
2465						2470					2475			
Asp	Tyr	Ile	Asp	Thr	Gly	Ala	Ala	Ile	Leu	Asn	Phe	Tyr	Cys	Thr
2480						2485					2490			
Leu	Val	Asp	Leu	Leu	Gly	Arg	Cys	Ala	Pro	Asp	Ala	Gly	Val	Ile
2495						2500					2505			
Ala	Leu	Gly	Lys	Asn	Glu	Ser	Leu	Arg	Ala	Arg	Ala	Ile	Leu	Arg
2510						2515					2520			
Ser	Leu	Val	Pro	Leu	Glu	Asp	Leu	Gln	Gly	Val	Leu	Ser	Leu	Arg
2525						2530					2535			
Phe	Thr	Leu	Asn	Asn	Pro	Ala	Ala	Gly	Glu	Glu	Arg	Pro	Lys	Ser
2540						2545					2550			
Asp	Met	Pro	Ser	Gly	Leu	Ile	Pro	Gly	His	Lys	Gln	Ser	Val	Gly
2555						2560					2565			
Leu	Phe	Leu	Glu	Arg	Val	Tyr	Gly	Ile	Glu	Thr	Gln	Glu	Leu	Phe
2570						2575					2580			
Tyr	Lys	Leu	Leu	Glu	Glu	Ala	Phe	Leu	Pro	Asp	Leu	Arg	Ala	Ala
2585						2590					2595			
Thr	Met	Leu	Asp	Arg	Asn	Asp	Gly	Cys	Glu	Ser	Asp	Met	Ala	Leu
2600						2605					2610			
Ser	Met	Asn	Arg	Tyr	Ile	Gly	Asn	Ser	Ile	Leu	Pro	Leu	Leu	Ile
2615						2620					2625			
Lys	His	Ala	Tyr	Phe	Tyr	Asn	Glu	Ala	Glu	Asn	Tyr	Ala	Ser	Leu
2630						2635					2640			
Leu	Asp	Ala	Thr	Leu	His	Thr	Val	Tyr	Arg	Leu	Ser	Lys	Asn	Arg
2645						2650					2655			

Met	Leu	Thr	Lys	Gly	Gln	Arg	Glu	Ala	Val	Ser	Asp	Phe	Leu	Val
2660						2665					2670			
Ala	Leu	Thr	Ser	Ala	Met	Gln	Pro	Ser	Met	Leu	Leu	Lys	Leu	Leu
2675						2680					2685			
Arg	Lys	Leu	Thr	Val	Asp	Val	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Thr
2690						2695					2700			
Val	Ala	Leu	Arg	Leu	Leu	Thr	Leu	His	Tyr	Glu	Arg	Cys	Ala	Lys
2705						2710					2715			
Tyr	Tyr	Gly	Ser	Thr	Gly	Ala	Gly	Gln	Gly	Ala	Phe	Gly	Ala	Ser
2720						2725					2730			
Ser	Asp	Glu	Glu	Lys	Arg	Leu	Thr	Met	Met	Leu	Phe	Ser	Asn	Ile
2735						2740					2745			
Phe	Asp	Ser	Leu	Ser	Lys	Met	Asp	Tyr	Glu	Pro	Glu	Leu	Phe	Gly
2750						2755					2760			
Lys	Ala	Leu	Pro	Cys	Leu	Ile	Ala	Ile	Gly	Cys	Ala	Leu	Pro	Pro
2765						2770					2775			
Asp	Tyr	Ser	Leu	Ser	Lys	Asn	Tyr	Asp	Asp	Glu	Phe	Tyr	Gly	Lys
2780						2785					2790			
Glu	Gln	Ala	Ala	Gly	Asp	Leu	Asp	Asn	Pro	Gln	Tyr	Asp	Pro	Gln
2795						2800					2805			
Pro	Ile	Asn	Thr	Ser	Ser	Val	Ala	Leu	Asn	Asn	Asp	Leu	Asn	Thr
2810						2815					2820			
Ile	Val	Gln	Lys	Phe	Ser	Glu	His	Tyr	His	Asp	Ala	Trp	Ala	Ser
2825						2830					2835			
Arg	Lys	Ile	Glu	Asn	Gly	Trp	Val	Tyr	Gly	Glu	Gly	Trp	Ser	Asp
2840						2845					2850			
Ser	Gln	Lys	Thr	His	Pro	Arg	Leu	Lys	Pro	Tyr	Asn	Met	Leu	Asn
2855						2860					2865			
Asp	Tyr	Glu	Lys	Glu	Arg	Tyr	Lys	Glu	Pro	Val	Arg	Glu	Ser	Leu
2870						2875					2880			
Lys	Ala	Leu	Leu	Ala	Ile	Gly	Trp	Ser	Val	Glu	His	Ser	Glu	Val
2885						2890					2895			
Asp	Ile	Pro	Ser	Asn	Asn	Arg	Ser	Ser	Met	Arg	Arg	Gln	Ser	Lys
2900						2905					2910			
Ser	Gly	Gly	Arg	Pro	Pro	Glu	Ile	Val	Thr	Asp	Ser	Ala	Thr	Pro
2915						2920					2925			
Phe	Asn	Tyr	Asn	Pro	His	Pro	Val	Asp	Met	Thr	Asn	Leu	Thr	Leu
2930						2935					2940			
Ser	Arg	Glu	Met	Gln	Asn	Met	Ala	Glu	Arg	Leu	Ala	Asp	Asn	Ala
2945						2950					2955			

His	Asp	Ile	Trp	Ala	Lys	Lys	Lys	Lys	Glu	Glu	Leu	Val	Thr	Asn
	2960					2965					2970			
Gly	Gly	Gly	Ile	His	Pro	Gln	Leu	Val	Pro	Tyr	Asp	Leu	Leu	Thr
	2975					2980					2985			
Asp	Lys	Glu	Lys	Lys	Lys	Asp	Arg	Glu	Arg	Ser	Gln	Glu	Phe	Leu
	2990					2995					3000			
Lys	Tyr	Leu	Gln	Tyr	Gln	Gly	Tyr	Lys	Leu	His	Arg	Pro	Ser	Lys
	3005					3010					3015			
Ala	Pro	Gln	Ser	Asp	Thr	Glu	Gln	Thr	Thr	Thr	Gly	Val	Ala	Ile
	3020					3025					3030			
Glu	Leu	Arg	Phe	Ala	Tyr	Ser	Leu	Leu	Glu	Lys	Leu	Ile	Gln	Tyr
	3035					3040					3045			
Ile	Asp	Arg	Ala	Thr	Ile	Asn	Met	Lys	Leu	Leu	Lys	Pro	Ser	Thr
	3050					3055					3060			
Thr	Phe	Ser	Arg	Arg	Ser	Ser	Phe	Lys	Thr	Ser	Thr	Arg	Asp	Ile
	3065					3070					3075			
Lys	Phe	Phe	Ser	Lys	Val	Val	Leu	Pro	Leu	Met	Glu	Lys	Tyr	Phe
	3080					3085					3090			
Ser	Thr	His	Arg	Asn	Tyr	Phe	Ile	Ala	Val	Ala	Thr	Ala	Thr	Asn
	3095					3100					3105			
Asn	Val	Gly	Ala	Ala	Ser	Leu	Lys	Glu	Lys	Glu	Met	Val	Ala	Ala
	3110					3115					3120			
Leu	Phe	Cys	Lys	Leu	Ala	Ser	Leu	Leu	Arg	Ser	Arg	Leu	Ala	Ala
	3125					3130					3135			
Phe	Gly	Pro	Asp	Val	Arg	Ile	Thr	Val	Arg	Cys	Leu	Gln	Val	Leu
	3140					3145					3150			
Val	Lys	Gly	Ile	Asp	Ala	Lys	Ser	Leu	Val	Lys	Asn	Cys	Pro	Glu
	3155					3160					3165			
Phe	Ile	Arg	Thr	Ser	Met	Leu	Thr	Phe	Phe	Asn	Asn	Val	Ala	Asp
	3170					3175					3180			
Asp	Val	Gly	His	Thr	Ile	Met	Asn	Leu	Gln	Asp	Gly	Lys	Tyr	Ala
	3185					3190					3195			
His	Leu	Arg	Gly	Thr	His	Leu	Lys	Thr	Ser	Thr	Ser	Leu	Gly	Tyr
	3200					3205					3210			
Ile	Asn	Gly	Val	Leu	Leu	Pro	Ile	Leu	Thr	Ala	Lys	Phe	Asp	His
	3215					3220					3225			
Leu	Ala	Asn	Cys	Glu	Tyr	Gly	Ala	Asp	Leu	Leu	Leu	Asp	Glu	Ile
	3230					3235					3240			
Gln	Val	Ala	Ser	Tyr	Lys	Met	Leu	Gly	Ser	Leu	Tyr	Ala	Leu	Gly
	3245					3250					3255			

Thr	Asp	Ala	Ser	Leu	Thr	His	Asp	Arg	Lys	Tyr	Leu	Lys	Thr	Glu
	3260					3265					3270			
Ile	Glu	Arg	His	Lys	Pro	Ala	Leu	Gly	Ser	Cys	Leu	Gly	Ala	Phe
	3275					3280					3285			
Ser	Ser	Thr	Phe	Pro	Val	Ala	Phe	Leu	Glu	Pro	His	Leu	Asn	Lys
	3290					3295					3300			
His	Asn	Gln	Phe	Ser	Leu	Leu	Asn	Arg	Ile	Ala	Asp	His	Ser	Leu
	3305					3310					3315			
Glu	Ala	Gln	Asp	Ile	Met	Gln	Lys	Met	Glu	Gln	Cys	Met	Pro	Thr
	3320					3325					3330			
Leu	Glu	Thr	Ile	Leu	Gly	Glu	Val	Asp	Gln	Phe	Val	Glu	Ser	Asp
	3335					3340					3345			
Lys	Thr	Tyr	Asn	Glu	Ala	Pro	His	Ile	Ile	Asp	Val	Val	Leu	Pro
	3350					3355					3360			
Leu	Leu	Cys	Ser	Tyr	Leu	Pro	Phe	Trp	Trp	Ala	Gln	Gly	Pro	Asp
	3365					3370					3375			
Asn	Val	Thr	Pro	Thr	Gly	Gly	Asn	His	Val	Thr	Met	Val	Thr	Ala
	3380					3385					3390			
Glu	His	Met	Asn	Gln	Leu	Leu	Lys	Asn	Val	Leu	Lys	Leu	Ile	Lys
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